

SEQUENCE LISTING

<110> Rohm and Haas Company
Palli, Subba Reddy
Kapitskaya, Marianna Zinovjevna
Cress, Dean Ervin

<120> Novel Ecdysone Receptor-Based Inducible Gene Expression System

<130> A01020B

<140> Not Yet Assigned
<141> 2001-09-26

<150> 60/191,355
<151> 2000-03-22

<150> 60/269,799
<151> 2001-02-20

<150> PCT/US01/09050
<151> 2001-03-21

<160> 75

<170> PatentIn version 3.1

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 <213> Drosophila melanogaster

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gattcttaca aaatggccgg aatggctgat aacattgaag acctgctgca tttctgccgc 660

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caaatgttct cgatgaaggt ggacaacgtc gaatacgcgc ttctcactgc cattgtgatc 720
 ttctcggacc ggccgggcct ggagaaggcc caactagtcg aagcgatcca gagctactac 780
 atcgacacgc tacgcattta tataactcaac cgccactgcg gcgactcaat gagcctcgtc 840
 ttctacgcaa agctgctctc gatcctcacc gagctgcgta cgctgggcaa ccagaacgcc 900
 gagatgtggt tctcactaaa gctcaaaaac cgcaaactgc ccaagttcct cgaggagatc 960
 tgggacgtt 969

<210> 11
 <211> 412
 <212> PRT
 <213> Choristoneura fumiferana

<220>
 <221> misc_feature
 <223> Novel Sequence

<400> 11

Lys Gly Pro Ala Pro Arg Gln Gln Glu Glu Leu Cys Leu Val Cys Gly
 1 5 10 15

Asp Arg Ala Ser Gly Tyr His Tyr Asn Ala Leu Thr Cys Glu Gly Cys
 20 25 30

Lys Gly Phe Phe Arg Arg Ser Val Thr Lys Asn Ala Val Tyr Ile Cys
 35 40 45

Lys Phe Gly His Ala Cys Glu Met Asp Met Tyr Met Arg Arg Lys Cys
 50 55 60

Gln Glu Cys Arg Leu Lys Lys Cys Leu Ala Val Gly Met Arg Pro Glu
 65 70 75 80

Cys Val Val Pro Glu Thr Gln Cys Ala Met Lys Arg Lys Glu Lys Lys
 85 90 95

Ala Gln Lys Glu Lys Asp Lys Leu Pro Val Ser Thr Thr Thr Val Asp
 100 105 110

Asp His Met Pro Pro Ile Met Gln Cys Glu Pro Pro Pro Pro Glu Ala
 115 120 125

Ala Arg Ile His Glu Val Val Pro Arg Phe Leu Ser Asp Lys Leu Leu
130 135 140

Glu Thr Asn Arg Gln Lys Asn Ile Pro Gln Leu Thr Ala Asn Gln Gln
145 150 155 160

Phe Leu Ile Ala Arg Leu Ile Trp Tyr Gln Asp Gly Tyr Glu Gln Pro
165 170 175

Ser Asp Glu Asp Leu Lys Arg Ile Thr Gln Thr Trp Gln Gln Ala Asp
180 185 190

Asp Glu Asn Glu Glu Ser Asp Thr Pro Phe Arg Gln Ile Thr Glu Met
195 200 205

Thr Ile Leu Thr Val Gln Leu Ile Val Glu Phe Ala Lys Gly Leu Pro
210 215 220

Gly Phe Ala Lys Ile Ser Gln Pro Asp Gln Ile Thr Leu Leu Lys Ala
225 230 235 240

Cys Ser Ser Glu Val Met Met Leu Arg Val Ala Arg Arg Tyr Asp Ala
245 250 255

Ala Ser Asp Ser Val Leu Phe Ala Asn Asn Gln Ala Tyr Thr Arg Asp
260 265 270

Asn Tyr Arg Lys Ala Gly Met Ala Tyr Val Ile Glu Asp Leu Leu His
275 280 285

Phe Cys Arg Cys Met Tyr Ser Met Ala Leu Asp Asn Ile His Tyr Ala
290 295 300

Leu Leu Thr Ala Val Val Ile Phe Ser Asp Arg Pro Gly Leu Glu Gln
305 310 315 320

Pro Gln Leu Val Glu Glu Ile Gln Arg Tyr Tyr Leu Asn Thr Leu Arg
325 330 335

Ile Tyr Ile Leu Asn Gln Leu Ser Gly Ser Ala Arg Ser Ser Val Ile
340 345 350

Tyr Gly Lys Ile Leu Ser Ile Leu Ser Glu Leu Arg Thr Leu Gly Met

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355

360

365

Gln Asn Ser Asn Met Cys Ile Ser Leu Lys Leu Lys Asn Arg Lys Leu
 370 375 380

Pro Pro Phe Leu Glu Glu Ile Trp Asp Val Ala Asp Met Ser His Thr
 385 390 395 400

Gln Pro Pro Pro Ile Leu Glu Ser Pro Thr Asn Leu
 405 410

<210> 12
 <211> 412
 <212> PRT
 <213> Choristoneura fumiferana

<220>
 <221> misc_feature
 <223> Novel Sequence

<400> 12

Lys Gly Pro Ala Pro Arg Gln Gln Glu Glu Leu Cys Leu Val Cys Gly
 1 5 10 15

Asp Arg Ala Ser Gly Tyr His Tyr Asn Ala Leu Thr Cys Glu Gly Cys
 20 25 30

Lys Gly Phe Phe Arg Arg Ser Val Thr Lys Asn Ala Val Tyr Ile Cys
 35 40 45

Lys Phe Gly His Ala Cys Glu Met Asp Met Tyr Met Arg Arg Lys Cys
 50 55 60

Gln Glu Cys Arg Leu Lys Lys Cys Leu Ala Val Gly Met Arg Pro Glu
 65 70 75 80

Cys Val Val Pro Glu Thr Gln Cys Ala Met Lys Arg Lys Glu Lys Lys
 85 90 95

Ala Gln Lys Glu Lys Asp Lys Leu Pro Val Ser Thr Thr Thr Val Asp
 100 105 110

Asp His Met Pro Pro Ile Met Gln Cys Glu Pro Pro Pro Pro Glu Ala
 115 120 125

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Ala Arg Ile His Glu Val Val Pro Arg Phe Leu Ser Asp Lys Leu Leu
130 135 140

Glu Thr Asn Arg Gln Lys Asn Ile Pro Gln Leu Thr Ala Asn Gln Gln
145 150 155 160

Phe Leu Ile Ala Arg Leu Ile Trp Tyr Gln Asp Gly Tyr Glu Gln Pro
165 170 175

Ser Asp Glu Asp Leu Lys Arg Ile Thr Gln Thr Trp Gln Gln Ala Asp
180 185 190

Asp Glu Asn Glu Glu Ser Asp Thr Pro Phe Arg Gln Ile Thr Glu Met
195 200 205

Thr Ile Leu Thr Val Gln Leu Ile Val Glu Phe Ala Lys Gly Leu Pro
210 215 220

Gly Phe Ala Lys Ile Ser Gln Pro Asp Gln Ile Thr Leu Leu Lys Ala
225 230 235 240

Cys Ser Ser Glu Val Met Met Leu Arg Val Ala Arg Arg Tyr Asp Ala
245 250 255

Ala Ser Asp Ser Val Leu Phe Ala Asn Asn Gln Ala Tyr Thr Arg Asp
260 265 270

Asn Tyr Arg Lys Ala Gly Met Ala Tyr Val Ile Glu Asp Leu Leu His
275 280 285

Phe Cys Arg Cys Met Tyr Ser Met Ala Leu Asp Asn Ile His Tyr Ala
290 295 300

Leu Leu Thr Ala Val Val Ile Phe Ser Asp Arg Pro Gly Leu Glu Gln
305 310 315 320

Pro Gln Leu Val Glu Glu Ile Gln Arg Tyr Tyr Leu Asn Thr Leu Arg
325 330 335

Ile Tyr Ile Leu Asn Gln Leu Ser Gly Ser Ala Arg Ser Ser Val Ile
340 345 350

Tyr Gly Lys Ile Leu Ser Ile Leu Ser Glu Leu Arg Thr Leu Gly Met
 355 360 365

Gln Asn Ser Asn Met Cys Ile Ser Leu Lys Leu Lys Asn Arg Lys Leu
 370 375 380

Pro Pro Phe Leu Glu Glu Ile Trp Asp Val Ala Asp Met Ser His Thr
 385 390 395 400

Gln Pro Pro Pro Ile Leu Glu Ser Pro Thr Asn Leu
 405 410

<210> 13
 <211> 334
 <212> PRT
 <213> Choristoneura fumiferana

<220>
 <221> misc_feature
 <223> Novel Sequence

<400> 13

Pro Glu Cys Val Val Pro Glu Thr Gln Cys Ala Met Lys Arg Lys Glu
 1 5 10 15

Lys Lys Ala Gln Lys Glu Lys Asp Lys Leu Pro Val Ser Thr Thr Thr
 20 25 30

Val Asp Asp His Met Pro Pro Ile Met Gln Cys Glu Pro Pro Pro Pro
 35 40 45

Glu Ala Ala Arg Ile His Glu Val Val Pro Arg Phe Leu Ser Asp Lys
 50 55 60

Leu Leu Glu Thr Asn Arg Gln Lys Asn Ile Pro Gln Leu Thr Ala Asn
 65 70 75 80

Gln Gln Phe Leu Ile Ala Arg Leu Ile Trp Tyr Gln Asp Gly Tyr Glu
 85 90 95

Gln Pro Ser Asp Glu Asp Leu Lys Arg Ile Thr Gln Thr Trp Gln Gln
 100 105 110

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Ala Asp Asp Glu Asn Glu Glu Ser Asp Thr Pro Phe Arg Gln Ile Thr
115 120 125

Glu Met Thr Ile Leu Thr Val Gln Leu Ile Val Glu Phe Ala Lys Gly
130 135 140

Leu Pro Gly Phe Ala Lys Ile Ser Gln Pro Asp Gln Ile Thr Leu Leu
145 150 155 160

Lys Ala Cys Ser Ser Glu Val Met Met Leu Arg Val Ala Arg Arg Tyr
165 170 175

Asp Ala Ala Ser Asp Ser Val Leu Phe Ala Asn Asn Gln Ala Tyr Thr
180 185 190

Arg Asp Asn Tyr Arg Lys Ala Gly Met Ala Tyr Val Ile Glu Asp Leu
195 200 205

Leu His Phe Cys Arg Cys Met Tyr Ser Met Ala Leu Asp Asn Ile His
210 215 220

Tyr Ala Leu Leu Thr Ala Val Val Ile Phe Ser Asp Arg Pro Gly Leu
225 230 235 240

Glu Gln Pro Gln Leu Val Glu Glu Ile Gln Arg Tyr Tyr Leu Asn Thr
245 250 255

Leu Arg Ile Tyr Ile Leu Asn Gln Leu Ser Gly Ser Ala Arg Ser Ser
260 265 270

Val Ile Tyr Gly Lys Ile Leu Ser Ile Leu Ser Glu Leu Arg Thr Leu
275 280 285

Gly Met Gln Asn Ser Asn Met Cys Ile Ser Leu Lys Leu Lys Asn Arg
290 295 300

Lys Leu Pro Pro Phe Leu Glu Glu Ile Trp Asp Val Ala Asp Met Ser
305 310 315 320

His Thr Gln Pro Pro Pro Ile Leu Glu Ser Pro Thr Asn Leu
325 330

<210> 14

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<211> 244
 <212> PRT
 <213> Choristoneura fumiferana

<220>
 <221> misc_feature
 <223> Novel Sequence

<400> 14

Tyr Gln Asp Gly Tyr Glu Gln Pro Ser Asp Glu Asp Leu Lys Arg Ile
 1 5 10 15

Thr Gln Thr Trp Gln Gln Ala Asp Asp Glu Asn Glu Glu Ser Asp Thr
 20 25 30

Pro Phe Arg Gln Ile Thr Glu Met Thr Ile Leu Thr Val Gln Leu Ile
 35 40 45

Val Glu Phe Ala Lys Gly Leu Pro Gly Phe Ala Lys Ile Ser Gln Pro
 50 55 60

Asp Gln Ile Thr Leu Leu Lys Ala Cys Ser Ser Glu Val Met Met Leu
 65 70 75 80

Arg Val Ala Arg Arg Tyr Asp Ala Ala Ser Asp Ser Val Leu Phe Ala
 85 90 95

Asn Asn Gln Ala Tyr Thr Arg Asp Asn Tyr Arg Lys Ala Gly Met Ala
 100 105 110

Tyr Val Ile Glu Asp Leu Leu His Phe Cys Arg Cys Met Tyr Ser Met
 115 120 125

Ala Leu Asp Asn Ile His Tyr Ala Leu Leu Thr Ala Val Val Ile Phe
 130 135 140

Ser Asp Arg Pro Gly Leu Glu Gln Pro Gln Leu Val Glu Glu Ile Gln
 145 150 155 160

Arg Tyr Tyr Leu Asn Thr Leu Arg Ile Tyr Ile Leu Asn Gln Leu Ser
 165 170 175

Gly Ser Ala Arg Ser Ser Val Ile Tyr Gly Lys Ile Leu Ser Ile Leu
 180 185 190

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Ser Glu Leu Arg Thr Leu Gly Met Gln Asn Ser Asn Met Cys Ile Ser
195 200 205

Leu Lys Leu Lys Asn Arg Lys Leu Pro Pro Phe Leu Glu Glu Ile Trp
210 215 220

Asp Val Ala Asp Met Ser His Thr Gln Pro Pro Pro Ile Leu Glu Ser
225 230 235 240

Pro Thr Asn Leu

<210> 15
<211> 320
<212> PRT
<213> Choristoneura fumiferana

<220>
<221> misc_feature
<223> Novel Sequence

<400> 15

Pro Glu Cys Val Val Pro Glu Thr Gln Cys Ala Met Lys Arg Lys Glu
1 5 10 15

Lys Lys Ala Gln Lys Glu Lys Asp Lys Leu Pro Val Ser Thr Thr Thr
20 25 30

Val Asp Asp His Met Pro Pro Ile Met Gln Cys Glu Pro Pro Pro Pro
35 40 45

Glu Ala Ala Arg Ile His Glu Val Val Pro Arg Phe Leu Ser Asp Lys
50 55 60

Leu Leu Glu Thr Asn Arg Gln Lys Asn Ile Pro Gln Leu Thr Ala Asn
65 70 75 80

Gln Gln Phe Leu Ile Ala Arg Leu Ile Trp Tyr Gln Asp Gly Tyr Glu
85 90 95

Gln Pro Ser Asp Glu Asp Leu Lys Arg Ile Thr Gln Thr Trp Gln Gln
100 105 110

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Ala Asp Asp Glu Asn Glu Glu Ser Asp Thr Pro Phe Arg Gln Ile Thr
115 120 125

Glu Met Thr Ile Leu Thr Val Gln Leu Ile Val Glu Phe Ala Lys Gly
130 135 140

Leu Pro Gly Phe Ala Lys Ile Ser Gln Pro Asp Gln Ile Thr Leu Leu
145 150 155 160

Lys Ala Cys Ser Ser Glu Val Met Met Leu Arg Val Ala Arg Arg Tyr
165 170 175

Asp Ala Ala Ser Asp Ser Val Leu Phe Ala Asn Asn Gln Ala Tyr Thr
180 185 190

Arg Asp Asn Tyr Arg Lys Ala Gly Met Ala Tyr Val Ile Glu Asp Leu
195 200 205

Leu His Phe Cys Arg Cys Met Tyr Ser Met Ala Leu Asp Asn Ile His
210 215 220

Tyr Ala Leu Leu Thr Ala Val Val Ile Phe Ser Asp Arg Pro Gly Leu
225 230 235 240

Glu Gln Pro Gln Leu Val Glu Glu Ile Gln Arg Tyr Tyr Leu Asn Thr
245 250 255

Leu Arg Ile Tyr Ile Leu Asn Gln Leu Ser Gly Ser Ala Arg Ser Ser
260 265 270

Val Ile Tyr Gly Lys Ile Leu Ser Ile Leu Ser Glu Leu Arg Thr Leu
275 280 285

Gly Met Gln Asn Ser Asn Met Cys Ile Ser Leu Lys Leu Lys Asn Arg
290 295 300

Lys Leu Pro Pro Phe Leu Glu Glu Ile Trp Asp Val Ala Asp Met Ser
305 310 315 320

<210> 16
<211> 625
<212> PRT
<213> Drosophila melanogaster

<220>
<221> misc_feature
<223> Novel Sequence

<400> 16

Gly Pro Ala Pro Arg Val Gln Glu Glu Leu Cys Leu Val Cys Gly Asp
1 5 10 15

Arg Ala Ser Gly Tyr His Tyr Asn Ala Leu Thr Cys Glu Gly Cys Lys
20 25 30

Gly Phe Phe Arg Arg Ser Val Thr Lys Ser Ala Val Tyr Cys Cys Lys
35 40 45

Phe Gly Arg Ala Cys Glu Met Asp Met Tyr Met Arg Arg Lys Cys Gln
50 55 60

Glu Cys Arg Leu Lys Lys Cys Leu Ala Val Gly Met Arg Pro Glu Cys
65 70 75 80

Val Val Pro Glu Asn Gln Cys Ala Met Lys Arg Arg Glu Lys Lys Ala
85 90 95

Gln Lys Glu Lys Asp Lys Met Thr Thr Ser Pro Ser Ser Gln His Gly
100 105 110

Gly Asn Gly Ser Leu Ala Ser Gly Gly Gly Gln Asp Phe Val Lys Lys
115 120 125

Glu Ile Leu Asp Leu Met Thr Cys Glu Pro Pro Gln His Ala Thr Ile
130 135 140

Pro Leu Leu Pro Asp Glu Ile Leu Ala Lys Cys Gln Ala Arg Asn Ile
145 150 155 160

Pro Ser Leu Thr Tyr Asn Gln Leu Ala Val Ile Tyr Lys Leu Ile Trp
165 170 175

Tyr Gln Asp Gly Tyr Glu Gln Pro Ser Glu Glu Asp Leu Arg Arg Ile
180 185 190

Met Ser Gln Pro Asp Glu Asn Glu Ser Gln Thr Asp Val Ser Phe Arg

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195

200

205

His Ile Thr Glu Ile Thr Ile Leu Thr Val Gln Leu Ile Val Glu Phe
210 215 220

Ala Lys Gly Leu Pro Ala Phe Thr Lys Ile Pro Gln Glu Asp Gln Ile
225 230 235 240

Thr Leu Leu Lys Ala Cys Ser Ser Glu Val Met Met Leu Arg Met Ala
245 250 255

Arg Arg Tyr Asp His Ser Ser Asp Ser Ile Phe Phe Ala Asn Asn Arg
260 265 270

Ser Tyr Thr Arg Asp Ser Tyr Lys Met Ala Gly Met Ala Asp Asn Ile
275 280 285

Glu Asp Leu Leu His Phe Cys Arg Gln Met Phe Ser Met Lys Val Asp
290 295 300

Asn Val Glu Tyr Ala Leu Leu Thr Ala Ile Val Ile Phe Ser Asp Arg
305 310 315 320

Pro Gly Leu Glu Lys Ala Gln Leu Val Glu Ala Ile Gln Ser Tyr Tyr
325 330 335

Ile Asp Thr Leu Arg Ile Tyr Ile Leu Asn Arg His Cys Gly Asp Ser
340 345 350

Met Ser Leu Val Phe Tyr Ala Lys Leu Leu Ser Ile Leu Thr Glu Leu
355 360 365

Arg Thr Leu Gly Asn Gln Asn Ala Glu Met Cys Phe Ser Leu Lys Leu
370 375 380

Lys Asn Arg Lys Leu Pro Lys Phe Leu Glu Glu Ile Trp Asp Val His
385 390 395 400

Ala Ile Pro Pro Ser Val Gln Ser His Leu Gln Ile Thr Gln Glu Glu
405 410 415

Asn Glu Arg Leu Glu Arg Ala Glu Arg Met Arg Ala Ser Val Gly Gly
420 425 430

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Ala Ile Thr Ala Gly Ile Asp Cys Asp Ser Ala Ser Thr Ser Ala Ala
435 440 445

Ala Ala Ala Ala Gln His Gln Pro Gln Pro Gln Pro Gln Pro Gln Pro
450 455 460

Ser Ser Leu Thr Gln Asn Asp Ser Gln His Gln Thr Gln Pro Gln Leu
465 470 475 480

Gln Pro Gln Leu Pro Pro Gln Leu Gln Gly Gln Leu Gln Pro Gln Leu
485 490 495

Gln Pro Gln Leu Gln Thr Gln Leu Gln Pro Gln Ile Gln Pro Gln Pro
500 505 510

Gln Leu Leu Pro Val Ser Ala Pro Val Pro Ala Ser Val Thr Ala Pro
515 520 525

Gly Ser Leu Ser Ala Val Ser Thr Ser Ser Glu Tyr Met Gly Gly Ser
530 535 540

Ala Ala Ile Gly Pro Ile Thr Pro Ala Thr Thr Ser Ser Ile Thr Ala
545 550 555 560

Ala Val Thr Ala Ser Ser Thr Thr Ser Ala Val Pro Met Gly Asn Gly
565 570 575

Val Gly Val Gly Val Gly Val Gly Gly Asn Val Ser Met Tyr Ala Asn
580 585 590

Ala Gln Thr Ala Met Ala Leu Met Gly Val Ala Leu His Ser His Gln
595 600 605

Glu Gln Leu Ile Gly Gly Val Ala Val Lys Ser Glu His Ser Thr Thr
610 615 620

Ala
625

<210> 17
<211> 583
<212> PRT

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<213> Drosophila melanogaster

<220>

<221> misc_feature

<223> Novel Sequence

<400> 17

Ala Val Tyr Cys Cys Lys Phe Gly Arg Ala Cys Glu Met Asp Met Tyr
1 5 10 15

Met Arg Arg Lys Cys Gln Glu Cys Arg Leu Lys Lys Cys Leu Ala Val
20 25 30

Gly Met Arg Pro Glu Cys Val Val Pro Glu Asn Gln Cys Ala Met Lys
35 40 45

Arg Arg Glu Lys Lys Ala Gln Lys Glu Lys Asp Lys Met Thr Thr Ser
50 55 60

Pro Ser Ser Gln His Gly Gly Asn Gly Ser Leu Ala Ser Gly Gly Gly
65 70 75 80

Gln Asp Phe Val Lys Lys Glu Ile Leu Asp Leu Met Thr Cys Glu Pro
85 90 95

Pro Gln His Ala Thr Ile Pro Leu Leu Pro Asp Glu Ile Leu Ala Lys
100 105 110

Cys Gln Ala Arg Asn Ile Pro Ser Leu Thr Tyr Asn Gln Leu Ala Val
115 120 125

Ile Tyr Lys Leu Ile Trp Tyr Gln Asp Gly Tyr Glu Gln Pro Ser Glu
130 135 140

Glu Asp Leu Arg Arg Ile Met Ser Gln Pro Asp Glu Asn Glu Ser Gln
145 150 155 160

Thr Asp Val Ser Phe Arg His Ile Thr Glu Ile Thr Ile Leu Thr Val
165 170 175

Gln Leu Ile Val Glu Phe Ala Lys Gly Leu Pro Ala Phe Thr Lys Ile
180 185 190

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Pro Gln Glu Asp Gln Ile Thr Leu Leu Lys Ala Cys Ser Ser Glu Val
195 200 205

Met Met Leu Arg Met Ala Arg Arg Tyr Asp His Ser Ser Asp Ser Ile
210 215 220

Phe Phe Ala Asn Asn Arg Ser Tyr Thr Arg Asp Ser Tyr Lys Met Ala
225 230 235 240

Gly Met Ala Asp Asn Ile Glu Asp Leu Leu His Phe Cys Arg Gln Met
245 250 255

Phe Ser Met Lys Val Asp Asn Val Glu Tyr Ala Leu Leu Thr Ala Ile
260 265 270

Val Ile Phe Ser Asp Arg Pro Gly Leu Glu Lys Ala Gln Leu Val Glu
275 280 285

Ala Ile Gln Ser Tyr Tyr Ile Asp Thr Leu Arg Ile Tyr Ile Leu Asn
290 295 300

Arg His Cys Gly Asp Ser Met Ser Leu Val Phe Tyr Ala Lys Leu Leu
305 310 315 320

Ser Ile Leu Thr Glu Leu Arg Thr Leu Gly Asn Gln Asn Ala Glu Met
325 330 335

Cys Phe Ser Leu Lys Leu Lys Asn Arg Lys Leu Pro Lys Phe Leu Glu
340 345 350

Glu Ile Trp Asp Val His Ala Ile Pro Pro Ser Val Gln Ser His Leu
355 360 365

Gln Ile Thr Gln Glu Glu Asn Glu Arg Leu Glu Arg Ala Glu Arg Met
370 375 380

Arg Ala Ser Val Gly Gly Ala Ile Thr Ala Gly Ile Asp Cys Asp Ser
385 390 395 400

Ala Ser Thr Ser Ala Ala Ala Ala Ala Gln His Gln Pro Gln Pro
405 410 415

Gln Pro Gln Pro Gln Pro Ser Ser Leu Thr Gln Asn Asp Ser Gln His

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420

425

430

Gln Thr Gln Pro Gln Leu Gln Pro Gln Leu Pro Pro Gln Leu Gln Gly
 435 440 445

Gln Leu Gln Pro Gln Leu Gln Pro Gln Leu Gln Thr Gln Leu Gln Pro
 450 455 460

Gln Ile Gln Pro Gln Pro Gln Leu Leu Pro Val Ser Ala Pro Val Pro
 465 470 475 480

Ala Ser Val Thr Ala Pro Gly Ser Leu Ser Ala Val Ser Thr Ser Ser
 485 490 495

Glu Tyr Met Gly Gly Ser Ala Ala Ile Gly Pro Ile Thr Pro Ala Thr
 500 505 510

Thr Ser Ser Ile Thr Ala Ala Val Thr Ala Ser Ser Thr Thr Ser Ala
 515 520 525

Val Pro Met Gly Asn Gly Val Gly Val Gly Val Gly Val Gly Gly Asn
 530 535 540

Val Ser Met Tyr Ala Asn Ala Gln Thr Ala Met Ala Leu Met Gly Val
 545 550 555 560

Ala Leu His Ser His Gln Glu Gln Leu Ile Gly Gly Val Ala Val Lys
 565 570 575

Ser Glu His Ser Thr Thr Ala
 580

<210> 18
 <211> 549
 <212> PRT
 <213> Drosophila melanogaster

<220>
 <221> misc_feature
 <223> Novel Sequence

<400> 18

Arg Pro Glu Cys Val Val Pro Glu Asn Gln Cys Ala Met Lys Arg Arg
 1 5 10 15

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Glu Lys Lys Ala Gln Lys Glu Lys Asp Lys Met Thr Thr Ser Pro Ser
20 25 30

Ser Gln His Gly Gly Asn Gly Ser Leu Ala Ser Gly Gly Gly Gln Asp
35 40 45

Phe Val Lys Lys Glu Ile Leu Asp Leu Met Thr Cys Glu Pro Pro Gln
50 55 60

His Ala Thr Ile Pro Leu Leu Pro Asp Glu Ile Leu Ala Lys Cys Gln
65 70 75 80

Ala Arg Asn Ile Pro Ser Leu Thr Tyr Asn Gln Leu Ala Val Ile Tyr
85 90 95

Lys Leu Ile Trp Tyr Gln Asp Gly Tyr Glu Gln Pro Ser Glu Glu Asp
100 105 110

Leu Arg Arg Ile Met Ser Gln Pro Asp Glu Asn Glu Ser Gln Thr Asp
115 120 125

Val Ser Phe Arg His Ile Thr Glu Ile Thr Ile Leu Thr Val Gln Leu
130 135 140

Ile Val Glu Phe Ala Lys Gly Leu Pro Ala Phe Thr Lys Ile Pro Gln
145 150 155 160

Glu Asp Gln Ile Thr Leu Leu Lys Ala Cys Ser Ser Glu Val Met Met
165 170 175

Leu Arg Met Ala Arg Arg Tyr Asp His Ser Ser Asp Ser Ile Phe Phe
180 185 190

Ala Asn Asn Arg Ser Tyr Thr Arg Asp Ser Tyr Lys Met Ala Gly Met
195 200 205

Ala Asp Asn Ile Glu Asp Leu Leu His Phe Cys Arg Gln Met Phe Ser
210 215 220

Met Lys Val Asp Asn Val Glu Tyr Ala Leu Leu Thr Ala Ile Val Ile
225 230 235 240

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Phe Ser Asp Arg Pro Gly Leu Glu Lys Ala Gln Leu Val Glu Ala Ile
245 250 255

Gln Ser Tyr Tyr Ile Asp Thr Leu Arg Ile Tyr Ile Leu Asn Arg His
260 265 270

Cys Gly Asp Ser Met Ser Leu Val Phe Tyr Ala Lys Leu Leu Ser Ile
275 280 285

Leu Thr Glu Leu Arg Thr Leu Gly Asn Gln Asn Ala Glu Met Cys Phe
290 295 300

Ser Leu Lys Leu Lys Asn Arg Lys Leu Pro Lys Phe Leu Glu Glu Ile
305 310 315 320

Trp Asp Val His Ala Ile Pro Pro Ser Val Gln Ser His Leu Gln Ile
325 330 335

Thr Gln Glu Glu Asn Glu Arg Leu Glu Arg Ala Glu Arg Met Arg Ala
340 345 350

Ser Val Gly Gly Ala Ile Thr Ala Gly Ile Asp Cys Asp Ser Ala Ser
355 360 365

Thr Ser Ala Ala Ala Ala Ala Ala Gln His Gln Pro Gln Pro Gln Pro
370 375 380

Gln Pro Gln Pro Ser Ser Leu Thr Gln Asn Asp Ser Gln His Gln Thr
385 390 395 400

Gln Pro Gln Leu Gln Pro Gln Leu Pro Pro Gln Leu Gln Gly Gln Leu
405 410 415

Gln Pro Gln Leu Gln Pro Gln Leu Gln Thr Gln Leu Gln Pro Gln Ile
420 425 430

Gln Pro Gln Pro Gln Leu Leu Pro Val Ser Ala Pro Val Pro Ala Ser
435 440 445

Val Thr Ala Pro Gly Ser Leu Ser Ala Val Ser Thr Ser Ser Glu Tyr
450 455 460

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Met Gly Gly Ser Ala Ala Ile Gly Pro Ile Thr Pro Ala Thr Thr Ser
465 470 475 480

Ser Ile Thr Ala Ala Val Thr Ala Ser Ser Thr Thr Ser Ala Val Pro
485 490 495

Met Gly Asn Gly Val Gly Val Gly Val Gly Val Gly Gly Asn Val Ser
500 505 510

Met Tyr Ala Asn Ala Gln Thr Ala Met Ala Leu Met Gly Val Ala Leu
515 520 525

His Ser His Gln Glu Gln Leu Ile Gly Gly Val Ala Val Lys Ser Glu
530 535 540

His Ser Thr Thr Ala
545

<210> 19
<211> 445
<212> PRT
<213> Drosophila melanogaster

<220>
<221> misc_feature
<223> Novel Sequence

<400> 19

Tyr Glu Gln Pro Ser Glu Glu Asp Leu Arg Arg Ile Met Ser Gln Pro
1 5 10 15

Asp Glu Asn Glu Ser Gln Thr Asp Val Ser Phe Arg His Ile Thr Glu
20 25 30

Ile Thr Ile Leu Thr Val Gln Leu Ile Val Glu Phe Ala Lys Gly Leu
35 40 45

Pro Ala Phe Thr Lys Ile Pro Gln Glu Asp Gln Ile Thr Leu Leu Lys
50 55 60

Ala Cys Ser Ser Glu Val Met Met Leu Arg Met Ala Arg Arg Tyr Asp
65 70 75 80

His Ser Ser Asp Ser Ile Phe Phe Ala Asn Asn Arg Ser Tyr Thr Arg

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Asp Ser Tyr Lys Met Ala Gly Met Ala Asp Asn Ile Glu Asp Leu Leu
100 105 110

His Phe Cys Arg Gln Met Phe Ser Met Lys Val Asp Asn Val Glu Tyr
115 120 125

Ala Leu Leu Thr Ala Ile Val Ile Phe Ser Asp Arg Pro Gly Leu Glu
130 135 140

Lys Ala Gln Leu Val Glu Ala Ile Gln Ser Tyr Tyr Ile Asp Thr Leu
145 150 155 160

Arg Ile Tyr Ile Leu Asn Arg His Cys Gly Asp Ser Met Ser Leu Val
165 170 175

Phe Tyr Ala Lys Leu Leu Ser Ile Leu Thr Glu Leu Arg Thr Leu Gly
180 185 190

Asn Gln Asn Ala Glu Met Cys Phe Ser Leu Lys Leu Lys Asn Arg Lys
195 200 205

Leu Pro Lys Phe Leu Glu Glu Ile Trp Asp Val His Ala Ile Pro Pro
210 215 220

Ser Val Gln Ser His Leu Gln Ile Thr Gln Glu Glu Asn Glu Arg Leu
225 230 235 240

Glu Arg Ala Glu Arg Met Arg Ala Ser Val Gly Gly Ala Ile Thr Ala
245 250 255

Gly Ile Asp Cys Asp Ser Ala Ser Thr Ser Ala Ala Ala Ala Ala Ala
260 265 270

Gln His Gln Pro Gln Pro Gln Pro Gln Pro Gln Pro Ser Ser Leu Thr
275 280 285

Gln Asn Asp Ser Gln His Gln Thr Gln Pro Gln Leu Gln Pro Gln Leu
290 295 300

Pro Pro Gln Leu Gln Gly Gln Leu Gln Pro Gln Leu Gln Pro Gln Leu
305 310 315 320

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Gln Thr Gln Leu Gln Pro Gln Ile Gln Pro Gln Pro Gln Leu Leu Pro
325 330 335

Val Ser Ala Pro Val Pro Ala Ser Val Thr Ala Pro Gly Ser Leu Ser
340 345 350

Ala Val Ser Thr Ser Ser Glu Tyr Met Gly Gly Ser Ala Ala Ile Gly
355 360 365

Pro Ile Thr Pro Ala Thr Thr Ser Ser Ile Thr Ala Ala Val Thr Ala
370 375 380

Ser Ser Thr Thr Ser Ala Val Pro Met Gly Asn Gly Val Gly Val Gly
385 390 395 400

Val Gly Val Gly Gly Asn Val Ser Met Tyr Ala Asn Ala Gln Thr Ala
405 410 415

Met Ala Leu Met Gly Val Ala Leu His Ser His Gln Glu Gln Leu Ile
420 425 430

Gly Gly Val Ala Val Lys Ser Glu His Ser Thr Thr Ala
435 440 445

<210> 20
<211> 323
<212> PRT
<213> Drosophila melanogaster

<220>
<221> misc_feature
<223> Novel Sequence

<400> 20

Arg Pro Glu Cys Val Val Pro Glu Asn Gln Cys Ala Met Lys Arg Arg
1 5 10 15

Glu Lys Lys Ala Gln Lys Glu Lys Asp Lys Met Thr Thr Ser Pro Ser
20 25 30

Ser Gln His Gly Gly Asn Gly Ser Leu Ala Ser Gly Gly Gly Gln Asp
35 40 45

Phe Val Lys Lys Glu Ile Leu Asp Leu Met Thr Cys Glu Pro Pro Gln
50 55 60

His Ala Thr Ile Pro Leu Leu Pro Asp Glu Ile Leu Ala Lys Cys Gln
65 70 75 80

Ala Arg Asn Ile Pro Ser Leu Thr Tyr Asn Gln Leu Ala Val Ile Tyr
85 90 95

Lys Leu Ile Trp Tyr Gln Asp Gly Tyr Glu Gln Pro Ser Glu Glu Asp
100 105 110

Leu Arg Arg Ile Met Ser Gln Pro Asp Glu Asn Glu Ser Gln Thr Asp
115 120 125

Val Ser Phe Arg His Ile Thr Glu Ile Thr Ile Leu Thr Val Gln Leu
130 135 140

Ile Val Glu Phe Ala Lys Gly Leu Pro Ala Phe Thr Lys Ile Pro Gln
145 150 155 160

Glu Asp Gln Ile Thr Leu Leu Lys Ala Cys Ser Ser Glu Val Met Met
165 170 175

Leu Arg Met Ala Arg Arg Tyr Asp His Ser Ser Asp Ser Ile Phe Phe
180 185 190

Ala Asn Asn Arg Ser Tyr Thr Arg Asp Ser Tyr Lys Met Ala Gly Met
195 200 205

Ala Asp Asn Ile Glu Asp Leu Leu His Phe Cys Arg Gln Met Phe Ser
210 215 220

Met Lys Val Asp Asn Val Glu Tyr Ala Leu Leu Thr Ala Ile Val Ile
225 230 235 240

Phe Ser Asp Arg Pro Gly Leu Glu Lys Ala Gln Leu Val Glu Ala Ile
245 250 255

Gln Ser Tyr Tyr Ile Asp Thr Leu Arg Ile Tyr Ile Leu Asn Arg His
260 265 270

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Cys Gly Asp Ser Met Ser Leu Val Phe Tyr Ala Lys Leu Leu Ser Ile
 275 280 285

Leu Thr Glu Leu Arg Thr Leu Gly Asn Gln Asn Ala Glu Met Cys Phe
 290 295 300

Ser Leu Lys Leu Lys Asn Arg Lys Leu Pro Lys Phe Leu Glu Glu Ile
 305 310 315 320

Trp Asp Val

<210> 21
 <211> 987
 <212> DNA
 <213> Mus musculus
 <220>
 <221> misc_feature
 <223> Novel Sequence

<400> 21
 tgtgtatatct gtggggaccg ctcttcaggc aaacactatg gggatatacag ttgtgagggc 60
 tgcaagggtct tcttcaagag gacagtacgc aaagacctga cctacacctg ccgagacaac 120
 aaggactgcc tgatcgacaa gagacagcgg aaccgggtgtc agtactgccg ctaccagaag 180
 tgcttgccca tgggcatgaa gcgggaagct gtgcaggagg agcggcagcg gggcaaggac 240
 cggaatgaga acgaggtgga gtccaccagc agtgccaacg aggacatgcc tgtagagaag 300
 attctggaag ccgagcttgc tgtcgagccc aagactgaga catacgtgga ggcaaacatg 360
 gggctgaacc ccagctcacc aaatgacctt gttaccaaca tctgtcaagc agcagacaag 420
 cagctcttca ctcttggtga gtgggccaag aggatccac acttttctga gctgccctta 480
 gacgaccagg tcctctgtct acgggcaggc tggaacgagc tgctgatcgc ctctttctcc 540
 caccgctcca tagctgtgaa agatgggatt ctcttgccca ccggcctgca cgtacaccgg 600
 aacagcgctc acagtgtgtg ggtgggcgcc atctttgaca gggtgctaac agagctggtg 660
 tctaagatgc gtgacatgca gatggacaag acggagctgg gctgcctgcg agccattgtc 720
 ctgttcaacc ctgactctaa ggggctctca aaccctgctg aggtggaggc gttgagggag 780
 aagggtgatg cgtcactaga agcgtactgc aaacacaagt acctgagca gccgggcagg 840
 tttgccaagc tgctgctccg cctgcctgca ctgcgttcca tcgggctcaa gtgcctggag 900

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cacctgttct tcttcaagct catcggggac acgcccacg acaccttcct catggagatg 960
ctggaggcac cacatcaagc cacctag 987

<210> 22
<211> 789
<212> DNA
<213> Mus musculus

<220>
<221> misc_feature
<223> Novel Sequence

<400> 22
aagcgggaag ctgtgcagga ggagcggcag cggggcaagg accggaatga gaacgaggtg 60
gagtccacca gcagtgccaa cgaggacatg cctgtagaga agattctgga agccgagctt 120
gctgtcgagc ccaagactga gacatacgtg gagggcaaaca tggggctgaa cccagctca 180
ccaaatgacc ctgttacc aa catctgtcaa gcagcagaca agcagctctt cactcttgtg 240
gagtgggcca agaggatccc acacttttct gagctgcccc tagacgacca ggtcatcctg 300
ctacgggcag gctggaacga gctgctgatc gcctccttct cccaccgctc catagctgtg 360
aaagatggga ttctcctggc caccggcctg cacgtacacc ggaacagcgc tcacagtgtc 420
gggggtggcg ccatctttga cagggtgcta acagagctgg tgtctaagat gcgtgacatg 480
cagatggaca agacggagct gggctgcctg cgagccattg tcctgttcaa ccctgactct 540
aaggggctct caaacctgc tgaggtggag gcgttgaggg agaaggtgta tgcgtcacta 600
gaagcgtact gcaaacacaa gtaccctgag cagccgggca ggtttgcaa gctgctgctc 660
cgctgcctg cactgcgttc catcgggctc aagtgcctgg agcacctgtt cttcttcaag 720
ctcatcgggg acacgcccac cgacaccttc ctcatggaga tgctggaggc accacatcaa 780
gccacctag 789

<210> 23
<211> 714
<212> DNA
<213> Mus musculus

<220>
<221> misc_feature
<223> Novel Sequence

<400> 23
gccaacgagg acatgcctgt agagaagatt ctggaagccg agcttgctgt cgagcccaag 60

actgagacat acgtggaggc aaacatgggg ctgaaccca gctcacaaa tgaccctgtt 120
 accaacaatct gtcaagcagc agacaagcag ctcttcactc ttgtggagtg ggccaagagg 180
 atcccacact tttctgagct gccctagac gaccaggcca tcctgctacg ggcaggctgg 240
 aacgagctgc tgatcgctc cttctccac cgctccatag ctgtgaaaga tgggattctc 300
 ctggccaccg gcctgcacgt acaccggaac agcgctcaca gtgctggggg gggcgccatc 360
 tttgacaggg tgctaacaga gctggtgtct aagatgcgtg acatgcagat ggacaagacg 420
 gagctgggct gcctgcgagc cattgtcctg ttcaaccctg actctaagg gctctcaaac 480
 cctgctgagg tggaggcgtt gagggagaag gtgtatgct cactagaagc gtactgcaaa 540
 cacaagtacc ctgagcagcc gggcagggtt gccaaagtgc tgctccgcct gcctgcactg 600
 cgttccatcg ggctcaagtg cctggagcac ctgttcttct tcaagctcat cggggacacg 660
 cccatcgaca ccttctcat ggagatgctg gaggcaccac atcaagccac ctac 714

<210> 24
 <211> 536
 <212> DNA
 <213> Mus musculus
 <220>
 <221> misc_feature
 <223> Novel Sequence

<400> 24
 ggatcccaca cttttctgag ctgcccctag acgaccaggc catcctgcta cgggcaggct 60
 ggaacgagct gctgatcgcc tccttctccc accgctccat agctgtgaaa gatgggattc 120
 tcctggccac cggcctgcac gtacaccgga acagcgctca cagtgtctggg gtgggcgcca 180
 tctttgacag ggtgctaaca gagctggtgt ctaagatgcg tgacatgcag atggacaaga 240
 cggagctggg ctgcctgcga gccattgtcc tgttcaaccc tgactctaag gggctctcaa 300
 accctgctga ggtggaggcg ttgagggaga aggtgtatgc gtcactagaa gcgtactgca 360
 aacacaagta ccctgagcag ccgggcaggc ttgccaagct gctgctccgc ctgcctgcac 420
 tgcgttccat cgggctcaag tgccctggagc acctgttctt cttcaagctc atcggggaca 480
 cgcccatcga caccttctc atggagatgc tggaggcacc acatcaagcc acctag 536

<210> 25
 <211> 672
 <212> DNA

<213> Mus musculus

<220>

<221> misc_feature

<223> Novel Sequence

<400> 25

gccaacgagg acatgcctgt agagaagatt ctggaagccg agcttgctgt cgagcccaag 60
actgagacat acgtggaggc aaacatgggg ctgaaccca gctcacaaa tgaccctgtt 120
accaacatct gtcaagcagc agacaagcag ctcttcaactc ttgtggagtg ggccaagagg 180
atcccacact tttctgagct gcccctagac gaccaggtca tcttgctacg ggcaggctgg 240
aacgagctgc tgatgcctc cttctccac cgctccatag ctgtgaaaga tgggattctc 300
ctggccaccg gcctgcacgt acaccggaac agcgctcaca gtgctggggg gggcgccatc 360
tttgacaggg tgctaacaga gctggtgtct aagatgcgtg acatgcagat ggacaagacg 420
gagctgggct gcctgcgagc cattgtcctg ttcaaccctg actctaagg gctctcaaac 480
cctgctgagg tggaggcggt gagggagaag gtgtatgcgt cactagaagc gtactgcaaa 540
cacaagtacc ctgagcagcc gggcagggtt gccaaagctgc tgctccgct gcctgcactg 600
cgttccatcg ggctcaagtg cctggagcac ctgttcttct tcaagctcat cggggacacg 660
cccatcgaca cc 672

<210> 26

<211> 1123

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<223> Novel Sequence

<400> 26

tgcccatct gcggggaccg ctctcaggc aagcactatg gagtgtacag ctgcgagggg 60
tgcaagggt tcttcaagcg gacggtgcgc aaggacctga cctacacctg ccgcgacaac 120
aaggactgcc tgattgacaa gcggcagcgg aaccggtgcc agtactgccg ctaccagaag 180
tgctggcca tgggcatgaa gcgggaagcc gtgcaggagg agcggcagcg tggcaaggac 240
cggaacgaga atgaggtgga gtcgaccagc agcgccaacg aggacatgcc ggtggagagg 300
atcctggagg ctgagctggc cgtggagccc aagaccgaga cctacgtgga ggcaaacatg 360
gggctgaacc ccagctcgcc gaacgacct gtcaccaaca ttgccaagc agccgacaaa 420

cagcttttca ccttgggtgga gtggggccaag cggatccac acttctcaga gctgcccctg 480
gacgaccagg tcatcctgct gcgggcagge tggaatgagc tgctcatcgc ctccctctcc 540
caccgctcca tcgccgtgaa ggacgggac ctcctggcca ccgggctgca cgtccaccgg 600
aacagcgccc acagcgcagg ggtggggcgc atctttgaca gggtgctgac ggagcttggtg 660
tccaagatgc gggacatgca gatggacaag acggagctgg gctgcttgcg cgccatcgtc 720
ctctttaacc ctgactccaa ggggctctcg aaccgggccc aggtggaggc gctgagggag 780
aaggtctatg cgtccttgga ggcctactgc aagcacaagt acccagagca gccgggaagg 840
ttcgctaagc tcttgctccg cctgccggct ctgcgtcca tcgggctcaa atgcctggaa 900
catctcttct tcttcaagct catcggggac acaccattg acaccttct tatggagatg 960
ctggaggcgc cgcaccaa atgacttaggc tgccgggcca tctttgtgc ccaccggttc 1020
tgccaccct gcttgagcgc cagctgttct tctcagctg agccctgtcc ctgcccttct 1080
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<210> 27
<211> 925
<212> DNA
<213> Homo sapiens
<220>
<221> misc_feature
<223> Novel Sequence

<400> 27
aagcgggaag ccgtgcagga ggagcggcag cgtggcaagg accggaacga gaatgaggtg 60
gagtcgacca gcagcgccaa cgaggacatg ccggtggaga ggatcctgga ggctgagctg 120
gccgtggagc ccaagaccga gacctacgtg gaggcaaaca tggggctgaa cccagctcg 180
ccgaacgacc ctgtcaccaa catttgccaa gcagccgaca aacagctttt caccctggtg 240
gagtgggcca agcggatccc acatttctca gagctgcccc tggacgacca ggtcatcctg 300
ctgcgggcag gctggaatga gctgctcatc gcctccttct cccaccgctc catcgccgtg 360
aaggacggga tctccttggc caccgggctg cacgtccacc ggaacagcgc ccacagcgca 420
ggggtgggcg ccatctttga cagggtgctg acggagcttg tgtccaagat gcgggacatg 480
cagatggaca agacggagct gggctgctg cgcgccatcg tctctttaa cctgactcc 540
aaggggtctc cgaaccggc cgaggtggag gcgctgaggg agaaggtcta tgcgtccttg 600

gaggcctact gcaagcacia gtaccagag cagccgggaa ggttcgctaa gctcttgctc 660
 cgctgcggy ctctgcgctc catcgggctc aaatgcctgg aacatctctt cttcttcaag 720
 ctcatcggyg acacacccat tgacaccttc cttatggaga tgctggaggg gccgcaccaa 780
 atgacttagg cctgcggggc catcctttgt gccacccgt tctggccacc ctgcctggac 840
 gccagctgtt cttctcagcc tgagccctgt cctgcccctt ctctgcctgg cctgtttgga 900
 ctttggggca cagcctgtca ctgct 925

<210> 28
 <211> 850
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <223> Novel Sequence

<400> 28
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 accgagacct acgtggaggg aaacatgggg ctgaaccca gctcgccgaa cgaccctgtc 120
 accaacattt gccaaagcag cgacaaacag cttttcacc tggtggagtg ggccaagcgg 180
 atccacact tctcagagct gcccctggac gaccaggtca tctgctgcy ggcaggctgg 240
 aatgagctgc tcatcgctc cttctccac cgtccatcg ccgtgaagga cgggatcctc 300
 ctggccaccg ggctgcacgt ccaccggaac agcgcccaca gcgcaggggt gggcgccatc 360
 ttgacaggg tgctgacgga gcttgtgtcc aagatgcggg acatgcagat ggacaagacg 420
 gagctgggct gctgcgcgc catcgctctc tttaacctg actccaagg gctctcgaac 480
 ccggccgagg tggaggcgct gagggagaag gtctatgct ccttggaggc ctactgcaag 540
 cacaagtacc cagagcagcc gggaagggtc gctaagctct tgctccgct gccggctctg 600
 cgctccatcg ggctcaaag cctggaacat ctcttctct tcaagctcat cggggacaca 660
 cccattgaca ccttccttat ggagatgctg gaggcggcgc accaaatgac ttaggcctgc 720
 gggcccatcc tttgtgcca cccgttctgg ccaccctgcc tggacgccag ctgttctctc 780
 cagcctgagc cctgtccctg ccttctctg cctggcctgt ttggactttg gggcacagcc 840
 tgtcactgct 850

<210> 29
 <211> 670

<212> DNA
 <213> Homo sapiens
 <220>
 <221> misc_feature
 <223> Novel Sequence

<400> 29
 atccacact tctcagagct gccctggac gaccaggtca tctgctgcg ggcaggctgg 60
 aatgagctgc tcatcgctc cttctccac cgctccatcg ccgtgaagga cgggatcctc 120
 ctggccaccg ggctgcacgt ccaccggaac agcgcccaca gcgcaggggt gggcgccatc 180
 ttgacaggg tgctgacgga gcttgtgtcc aagatgcggg acatgcagat ggacaagacg 240
 gagctgggct gctgcgcg cctcgtcctc ttttaacctg actccaaggg gctctcgaac 300
 ccggccgagg tggaggcgct gagggagaag gtctatgcgt ccttggaggc ctactgcaag 360
 cacaagtacc cagagcagcc gggaaaggttc gctaagctct tgctccgct gccggctctg 420
 cgctccatcg ggctcaaatg cctggaacat ctcttcttct tcaagctcat cggggacaca 480
 ccattgaca ccttccttat ggagatgctg gaggcgccgc accaaatgac ttaggcctgc 540
 gggcccatcc tttgtgcca cccgttctg ccacctgcc tggacgccag ctgttcttct 600
 cagctgagc cctgtccctg cccttctctg cctggcctgt ttggactttg gggcacagcc 660
 tgctactgct 670

<210> 30
 <211> 672
 <212> DNA
 <213> Homo sapiens
 <220>
 <221> misc_feature
 <223> Novel Sequence

<400> 30
 gccaacgagg acatgccggt ggagaggatc ctggaggctg agctggccgt ggagcccaag 60
 accgagacct acgtggaggc aaacatgggg ctgaaccca gctcgccgaa cgacctgtc 120
 accaacattt gccaaagcgc cgacaaacag cttttcacc tggtggagtg ggccaagcgg 180
 atccacact tctcagagct gccctggac gaccaggtca tctgctgcg ggcaggctgg 240
 aatgagctgc tcatcgctc cttctccac cgctccatcg ccgtgaagga cgggatcctc 300
 ctggccaccg ggctgcacgt ccaccggaac agcgcccaca gcgcaggggt gggcgccatc 360

tttgacaggg tgctgacgga gcttgtgtcc aagatgcggg acatgcagat ggacaagacg 420
 gagctgggct gctgcgcg ccatcgctctc tttaaccctg actccaaggg gctctcgaac 480
 ccggccgagg tggaggcgct gagggagaag gtctatgcgt ccttggaggc ctactgcaag 540
 cacaagtacc cagagcagcc gggaagggtc gctaagctct tgctccgcct gccggctctg 600
 cgctccatcg ggctcaaagt cctggaacat ctcttcttct tcaagctcat cggggacaca 660
 cccattgaca cc 672

<210> 31
 <211> 328
 <212> PRT
 <213> Mus musculus

<220>
 <221> misc_feature
 <223> Novel Sequence

<400> 31

Cys Ala Ile Cys Gly Asp Arg Ser Ser Gly Lys His Tyr Gly Val Tyr
 1 5 10 15

Ser Cys Glu Gly Cys Lys Gly Phe Phe Lys Arg Thr Val Arg Lys Asp
 20 25 30

Leu Thr Tyr Thr Cys Arg Asp Asn Lys Asp Cys Leu Ile Asp Lys Arg
 35 40 45

Gln Arg Asn Arg Cys Gln Tyr Cys Arg Tyr Gln Lys Cys Leu Ala Met
 50 55 60

Gly Met Lys Arg Glu Ala Val Gln Glu Glu Arg Gln Arg Gly Lys Asp
 65 70 75 80

Arg Asn Glu Asn Glu Val Glu Ser Thr Ser Ser Ala Asn Glu Asp Met
 85 90 95

Pro Val Glu Lys Ile Leu Glu Ala Glu Leu Ala Val Glu Pro Lys Thr
 100 105 110

Glu Thr Tyr Val Glu Ala Asn Met Gly Leu Asn Pro Ser Ser Pro Asn
 115 120 125

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Asp Pro Val Thr Asn Ile Cys Gln Ala Ala Asp Lys Gln Leu Phe Thr
130 135 140

Leu Val Glu Trp Ala Lys Arg Ile Pro His Phe Ser Glu Leu Pro Leu
145 150 155 160

Asp Asp Gln Val Ile Leu Leu Arg Ala Gly Trp Asn Glu Leu Leu Ile
165 170 175

Ala Ser Phe Ser His Arg Ser Ile Ala Val Lys Asp Gly Ile Leu Leu
180 185 190

Ala Thr Gly Leu His Val His Arg Asn Ser Ala His Ser Ala Gly Val
195 200 205

Gly Ala Ile Phe Asp Arg Val Leu Thr Glu Leu Val Ser Lys Met Arg
210 215 220

Asp Met Gln Met Asp Lys Thr Glu Leu Gly Cys Leu Arg Ala Ile Val
225 230 235 240

Leu Phe Asn Pro Asp Ser Lys Gly Leu Ser Asn Pro Ala Glu Val Glu
245 250 255

Ala Leu Arg Glu Lys Val Tyr Ala Ser Leu Glu Ala Tyr Cys Lys His
260 265 270

Lys Tyr Pro Glu Gln Pro Gly Arg Phe Ala Lys Leu Leu Leu Arg Leu
275 280 285

Pro Ala Leu Arg Ser Ile Gly Leu Lys Cys Leu Glu His Leu Phe Phe
290 295 300

Phe Lys Leu Ile Gly Asp Thr Pro Ile Asp Thr Phe Leu Met Glu Met
305 310 315 320

Leu Glu Ala Pro His Gln Ala Thr
325

<210> 32
<211> 262
<212> PRT
<213> Mus musculus

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<220>
 <221> misc_feature
 <223> Novel Sequence

<400> 32

Lys Arg Glu Ala Val Gln Glu Glu Arg Gln Arg Gly Lys Asp Arg Asn
 1 5 10 15

Glu Asn Glu Val Glu Ser Thr Ser Ser Ala Asn Glu Asp Met Pro Val
 20 25 30

Glu Lys Ile Leu Glu Ala Glu Leu Ala Val Glu Pro Lys Thr Glu Thr
 35 40 45

Tyr Val Glu Ala Asn Met Gly Leu Asn Pro Ser Ser Pro Asn Asp Pro
 50 55 60

Val Thr Asn Ile Cys Gln Ala Ala Asp Lys Gln Leu Phe Thr Leu Val
 65 70 75 80

Glu Trp Ala Lys Arg Ile Pro His Phe Ser Glu Leu Pro Leu Asp Asp
 85 90 95

Gln Val Ile Leu Leu Arg Ala Gly Trp Asn Glu Leu Leu Ile Ala Ser
 100 105 110

Phe Ser His Arg Ser Ile Ala Val Lys Asp Gly Ile Leu Leu Ala Thr
 115 120 125

Gly Leu His Val His Arg Asn Ser Ala His Ser Ala Gly Val Gly Ala
 130 135 140

Ile Phe Asp Arg Val Leu Thr Glu Leu Val Ser Lys Met Arg Asp Met
 145 150 155 160

Gln Met Asp Lys Thr Glu Leu Gly Cys Leu Arg Ala Ile Val Leu Phe
 165 170 175

Asn Pro Asp Ser Lys Gly Leu Ser Asn Pro Ala Glu Val Glu Ala Leu
 180 185 190

Arg Glu Lys Val Tyr Ala Ser Leu Glu Ala Tyr Cys Lys His Lys Tyr
 195 200 205

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Pro Glu Gln Pro Gly Arg Phe Ala Lys Leu Leu Leu Arg Leu Pro Ala
 210 215 220

Leu Arg Ser Ile Gly Leu Lys Cys Leu Glu His Leu Phe Phe Phe Lys
 225 230 235 240

Leu Ile Gly Asp Thr Pro Ile Asp Thr Phe Leu Met Glu Met Leu Glu
 245 250 255

Ala Pro His Gln Ala Thr
 260

<210> 33
 <211> 237
 <212> PRT
 <213> Mus musculus

<220>
 <221> misc_feature
 <223> Novel Sequence

<400> 33

Ala Asn Glu Asp Met Pro Val Glu Lys Ile Leu Glu Ala Glu Leu Ala
 1 5 10 15

Val Glu Pro Lys Thr Glu Thr Tyr Val Glu Ala Asn Met Gly Leu Asn
 20 25 30

Pro Ser Ser Pro Asn Asp Pro Val Thr Asn Ile Cys Gln Ala Ala Asp
 35 40 45

Lys Gln Leu Phe Thr Leu Val Glu Trp Ala Lys Arg Ile Pro His Phe
 50 55 60

Ser Glu Leu Pro Leu Asp Asp Gln Val Ile Leu Leu Arg Ala Gly Trp
 65 70 75 80

Asn Glu Leu Leu Ile Ala Ser Phe Ser His Arg Ser Ile Ala Val Lys
 85 90 95

Asp Gly Ile Leu Leu Ala Thr Gly Leu His Val His Arg Asn Ser Ala
 100 105 110

109260 109260 109260

His Ser Ala Gly Val Gly Ala Ile Phe Asp Arg Val Leu Thr Glu Leu
115 120 125

Val Ser Lys Met Arg Asp Met Gln Met Asp Lys Thr Glu Leu Gly Cys
130 135 140

Leu Arg Ala Ile Val Leu Phe Asn Pro Asp Ser Lys Gly Leu Ser Asn
145 150 155 160

Pro Ala Glu Val Glu Ala Leu Arg Glu Lys Val Tyr Ala Ser Leu Glu
165 170 175

Ala Tyr Cys Lys His Lys Tyr Pro Glu Gln Pro Gly Arg Phe Ala Lys
180 185 190

Leu Leu Leu Arg Leu Pro Ala Leu Arg Ser Ile Gly Leu Lys Cys Leu
195 200 205

Glu His Leu Phe Phe Phe Lys Leu Ile Gly Asp Thr Pro Ile Asp Thr
210 215 220

Phe Leu Met Glu Met Leu Glu Ala Pro His Gln Ala Thr
225 230 235

<210> 34
<211> 177
<212> PRT
<213> Mus musculus

<220>
<221> misc_feature
<223> Novel Sequence

<400> 34

Ile Pro His Phe Ser Glu Leu Pro Leu Asp Asp Gln Val Ile Leu Leu
1 5 10 15

Arg Ala Gly Trp Asn Glu Leu Leu Ile Ala Ser Phe Ser His Arg Ser
20 25 30

Ile Ala Val Lys Asp Gly Ile Leu Leu Ala Thr Gly Leu His Val His
35 40 45

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Arg Asn Ser Ala His Ser Ala Gly Val Gly Ala Ile Phe Asp Arg Val
50 55 60

Leu Thr Glu Leu Val Ser Lys Met Arg Asp Met Gln Met Asp Lys Thr
65 70 75 80

Glu Leu Gly Cys Leu Arg Ala Ile Val Leu Phe Asn Pro Asp Ser Lys
85 90 95

Gly Leu Ser Asn Pro Ala Glu Val Glu Ala Leu Arg Glu Lys Val Tyr
100 105 110

Ala Ser Leu Glu Ala Tyr Cys Lys His Lys Tyr Pro Glu Gln Pro Gly
115 120 125

Arg Phe Ala Lys Leu Leu Leu Arg Leu Pro Ala Leu Arg Ser Ile Gly
130 135 140

Leu Lys Cys Leu Glu His Leu Phe Phe Phe Lys Leu Ile Gly Asp Thr
145 150 155 160

Pro Ile Asp Thr Phe Leu Met Glu Met Leu Glu Ala Pro His Gln Ala
165 170 175

Thr

<210> 35
<211> 224
<212> PRT
<213> Mus musculus

<220>
<221> misc_feature
<223> Novel Sequence

<400> 35

Ala Asn Glu Asp Met Pro Val Glu Lys Ile Leu Glu Ala Glu Leu Ala
1 5 10 15

Val Glu Pro Lys Thr Glu Thr Tyr Val Glu Ala Asn Met Gly Leu Asn
20 25 30

Pro Ser Ser Pro Asn Asp Pro Val Thr Asn Ile Cys Gln Ala Ala Asp

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35

40

45

Lys Gln Leu Phe Thr Leu Val Glu Trp Ala Lys Arg Ile Pro His Phe
50 55 60

Ser Glu Leu Pro Leu Asp Asp Gln Val Ile Leu Leu Arg Ala Gly Trp
65 70 75 80

Asn Glu Leu Leu Ile Ala Ser Phe Ser His Arg Ser Ile Ala Val Lys
85 90 95

Asp Gly Ile Leu Leu Ala Thr Gly Leu His Val His Arg Asn Ser Ala
100 105 110

His Ser Ala Gly Val Gly Ala Ile Phe Asp Arg Val Leu Thr Glu Leu
115 120 125

Val Ser Lys Met Arg Asp Met Gln Met Asp Lys Thr Glu Leu Gly Cys
130 135 140

Leu Arg Ala Ile Val Leu Phe Asn Pro Asp Ser Lys Gly Leu Ser Asn
145 150 155 160

Pro Ala Glu Val Glu Ala Leu Arg Glu Lys Val Tyr Ala Ser Leu Glu
165 170 175

Ala Tyr Cys Lys His Lys Tyr Pro Glu Gln Pro Gly Arg Phe Ala Lys
180 185 190

Leu Leu Leu Arg Leu Pro Ala Leu Arg Ser Ile Gly Leu Lys Cys Leu
195 200 205

Glu His Leu Phe Phe Phe Lys Leu Ile Gly Asp Thr Pro Ile Asp Thr
210 215 220

<210> 36

<211> 328

<212> PRT

<213> Homo sapiens

<220>

<221> misc_feature

<223> Novel Sequence

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<400> 36

Cys Ala Ile Cys Gly Asp Arg Ser Ser Gly Lys His Tyr Gly Val Tyr
1 5 10 15

Ser Cys Glu Gly Cys Lys Gly Phe Phe Lys Arg Thr Val Arg Lys Asp
20 25 30

Leu Thr Tyr Thr Cys Arg Asp Asn Lys Asp Cys Leu Ile Asp Lys Arg
35 40 45

Gln Arg Asn Arg Cys Gln Tyr Cys Arg Tyr Gln Lys Cys Leu Ala Met
50 55 60

Gly Met Lys Arg Glu Ala Val Gln Glu Glu Arg Gln Arg Gly Lys Asp
65 70 75 80

Arg Asn Glu Asn Glu Val Glu Ser Thr Ser Ser Ala Asn Glu Asp Met
85 90 95

Pro Val Glu Arg Ile Leu Glu Ala Glu Leu Ala Val Glu Pro Lys Thr
100 105 110

Glu Thr Tyr Val Glu Ala Asn Met Gly Leu Asn Pro Ser Ser Pro Asn
115 120 125

Asp Pro Val Thr Asn Ile Cys Gln Ala Ala Asp Lys Gln Leu Phe Thr
130 135 140

Leu Val Glu Trp Ala Lys Arg Ile Pro His Phe Ser Glu Leu Pro Leu
145 150 155 160

Asp Asp Gln Val Ile Leu Leu Arg Ala Gly Trp Asn Glu Leu Leu Ile
165 170 175

Ala Ser Phe Ser His Arg Ser Ile Ala Val Lys Asp Gly Ile Leu Leu
180 185 190

Ala Thr Gly Leu His Val His Arg Asn Ser Ala His Ser Ala Gly Val
195 200 205

Gly Ala Ile Phe Asp Arg Val Leu Thr Glu Leu Val Ser Lys Met Arg
210 215 220

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Asp Met Gln Met Asp Lys Thr Glu Leu Gly Cys Leu Arg Ala Ile Val
 225 230 235 240

Leu Phe Asn Pro Asp Ser Lys Gly Leu Ser Asn Pro Ala Glu Val Glu
 245 250 255

Ala Leu Arg Glu Lys Val Tyr Ala Ser Leu Glu Ala Tyr Cys Lys His
 260 265 270

Lys Tyr Pro Glu Gln Pro Gly Arg Phe Ala Lys Leu Leu Leu Arg Leu
 275 280 285

Pro Ala Leu Arg Ser Ile Gly Leu Lys Cys Leu Glu His Leu Phe Phe
 290 295 300

Phe Lys Leu Ile Gly Asp Thr Pro Ile Asp Thr Phe Leu Met Glu Met
 305 310 315 320

Leu Glu Ala Pro His Gln Met Thr
 325

<210> 37
 <211> 262
 <212> PRT
 <213> Homo sapiens

<220>
 <221> misc_feature
 <223> Novel Sequence

<400> 37

Lys Arg Glu Ala Val Gln Glu Glu Arg Gln Arg Gly Lys Asp Arg Asn
 1 5 10 15

Glu Asn Glu Val Glu Ser Thr Ser Ser Ala Asn Glu Asp Met Pro Val
 20 25 30

Glu Arg Ile Leu Glu Ala Glu Leu Ala Val Glu Pro Lys Thr Glu Thr
 35 40 45

Tyr Val Glu Ala Asn Met Gly Leu Asn Pro Ser Ser Pro Asn Asp Pro
 50 55 60

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Val Thr Asn Ile Cys Gln Ala Ala Asp Lys Gln Leu Phe Thr Leu Val
65 70 75 80

Glu Trp Ala Lys Arg Ile Pro His Phe Ser Glu Leu Pro Leu Asp Asp
85 90 95

Gln Val Ile Leu Leu Arg Ala Gly Trp Asn Glu Leu Leu Ile Ala Ser
100 105 110

Phe Ser His Arg Ser Ile Ala Val Lys Asp Gly Ile Leu Leu Ala Thr
115 120 125

Gly Leu His Val His Arg Asn Ser Ala His Ser Ala Gly Val Gly Ala
130 135 140

Ile Phe Asp Arg Val Leu Thr Glu Leu Val Ser Lys Met Arg Asp Met
145 150 155 160

Gln Met Asp Lys Thr Glu Leu Gly Cys Leu Arg Ala Ile Val Leu Phe
165 170 175

Asn Pro Asp Ser Lys Gly Leu Ser Asn Pro Ala Glu Val Glu Ala Leu
180 185 190

Arg Glu Lys Val Tyr Ala Ser Leu Glu Ala Tyr Cys Lys His Lys Tyr
195 200 205

Pro Glu Gln Pro Gly Arg Phe Ala Lys Leu Leu Leu Arg Leu Pro Ala
210 215 220

Leu Arg Ser Ile Gly Leu Lys Cys Leu Glu His Leu Phe Phe Phe Lys
225 230 235 240

Leu Ile Gly Asp Thr Pro Ile Asp Thr Phe Leu Met Glu Met Leu Glu
245 250 255

Ala Pro His Gln Met Thr
260

<210> 38

<211> 237

<212> PRT

<213> Homo sapiens

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<220>
<221> misc_feature
<223> Novel Sequence

<400> 38

Ala Asn Glu Asp Met Pro Val Glu Arg Ile Leu Glu Ala Glu Leu Ala
1 5 10 15

Val Glu Pro Lys Thr Glu Thr Tyr Val Glu Ala Asn Met Gly Leu Asn
20 25 30

Pro Ser Ser Pro Asn Asp Pro Val Thr Asn Ile Cys Gln Ala Ala Asp
35 40 45

Lys Gln Leu Phe Thr Leu Val Glu Trp Ala Lys Arg Ile Pro His Phe
50 55 60

Ser Glu Leu Pro Leu Asp Asp Gln Val Ile Leu Leu Arg Ala Gly Trp
65 70 75 80

Asn Glu Leu Leu Ile Ala Ser Phe Ser His Arg Ser Ile Ala Val Lys
85 90 95

Asp Gly Ile Leu Leu Ala Thr Gly Leu His Val His Arg Asn Ser Ala
100 105 110

His Ser Ala Gly Val Gly Ala Ile Phe Asp Arg Val Leu Thr Glu Leu
115 120 125

Val Ser Lys Met Arg Asp Met Gln Met Asp Lys Thr Glu Leu Gly Cys
130 135 140

Leu Arg Ala Ile Val Leu Phe Asn Pro Asp Ser Lys Gly Leu Ser Asn
145 150 155 160

Pro Ala Glu Val Glu Ala Leu Arg Glu Lys Val Tyr Ala Ser Leu Glu
165 170 175

Ala Tyr Cys Lys His Lys Tyr Pro Glu Gln Pro Gly Arg Phe Ala Lys
180 185 190

Leu Leu Leu Arg Leu Pro Ala Leu Arg Ser Ile Gly Leu Lys Cys Leu
195 200 205

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Glu His Leu Phe Phe Phe Lys Leu Ile Gly Asp Thr Pro Ile Asp Thr
 210 215 220

Phe Leu Met Glu Met Leu Glu Ala Pro His Gln Met Thr
 225 230 235

<210> 39
 <211> 177
 <212> PRT
 <213> Homo sapiens

<220>
 <221> misc_feature
 <223> Novel Sequence

<400> 39

Ile Pro His Phe Ser Glu Leu Pro Leu Asp Asp Gln Val Ile Leu Leu
 1 5 10 15

Arg Ala Gly Trp Asn Glu Leu Leu Ile Ala Ser Phe Ser His Arg Ser
 20 25 30

Ile Ala Val Lys Asp Gly Ile Leu Leu Ala Thr Gly Leu His Val His
 35 40 45

Arg Asn Ser Ala His Ser Ala Gly Val Gly Ala Ile Phe Asp Arg Val
 50 55 60

Leu Thr Glu Leu Val Ser Lys Met Arg Asp Met Gln Met Asp Lys Thr
 65 70 75 80

Glu Leu Gly Cys Leu Arg Ala Ile Val Leu Phe Asn Pro Asp Ser Lys
 85 90 95

Gly Leu Ser Asn Pro Ala Glu Val Glu Ala Leu Arg Glu Lys Val Tyr
 100 105 110

Ala Ser Leu Glu Ala Tyr Cys Lys His Lys Tyr Pro Glu Gln Pro Gly
 115 120 125

Arg Phe Ala Lys Leu Leu Leu Arg Leu Pro Ala Leu Arg Ser Ile Gly
 130 135 140

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Leu Lys Cys Leu Glu His Leu Phe Phe Phe Lys Leu Ile Gly Asp Thr
145 150 155 160

Pro Ile Asp Thr Phe Leu Met Glu Met Leu Glu Ala Pro His Gln Met
165 170 175

Thr

<210> 40
<211> 224
<212> PRT
<213> Homo sapiens

<220>
<221> misc_feature
<223> Novel Sequence

<400> 40

Ala Asn Glu Asp Met Pro Val Glu Arg Ile Leu Glu Ala Glu Leu Ala
1 5 10 15

Val Glu Pro Lys Thr Glu Thr Tyr Val Glu Ala Asn Met Gly Leu Asn
20 25 30

Pro Ser Ser Pro Asn Asp Pro Val Thr Asn Ile Cys Gln Ala Ala Asp
35 40 45

Lys Gln Leu Phe Thr Leu Val Glu Trp Ala Lys Arg Ile Pro His Phe
50 55 60

Ser Glu Leu Pro Leu Asp Asp Gln Val Ile Leu Leu Arg Ala Gly Trp
65 70 75 80

Asn Glu Leu Leu Ile Ala Ser Phe Ser His Arg Ser Ile Ala Val Lys
85 90 95

Asp Gly Ile Leu Leu Ala Thr Gly Leu His Val His Arg Asn Ser Ala
100 105 110

His Ser Ala Gly Val Gly Ala Ile Phe Asp Arg Val Leu Thr Glu Leu
115 120 125

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Val Ser Lys Met Arg Asp Met Gln Met Asp Lys Thr Glu Leu Gly Cys
 130 135 140

Leu Arg Ala Ile Val Leu Phe Asn Pro Asp Ser Lys Gly Leu Ser Asn
 145 150 155 160

Pro Ala Glu Val Glu Ala Leu Arg Glu Lys Val Tyr Ala Ser Leu Glu
 165 170 175

Ala Tyr Cys Lys His Lys Tyr Pro Glu Gln Pro Gly Arg Phe Ala Lys
 180 185 190

Leu Leu Leu Arg Leu Pro Ala Leu Arg Ser Ile Gly Leu Lys Cys Leu
 195 200 205

Glu His Leu Phe Phe Phe Lys Leu Ile Gly Asp Thr Pro Ile Asp Thr
 210 215 220

<210> 41
 <211> 198
 <212> DNA
 <213> Choristoneura fumiferana

<400> 41
 tgtctggtat gcggggacag agcctccgga taccactaca atgcgctcac gtgtgaaggg 60
 tgtaaagggt tcttcagacg gagtgttacc aaaaatgcgg tttatatttg taaattcggt 120
 cacgcttgcg aaatggacat gtacatgcga cggaaatgcc aggagtgccg cctgaagaag 180
 tgcttagctg taggcatg 198

<210> 42
 <211> 66
 <212> PRT
 <213> Choristoneura fumiferana

<400> 42

Cys Leu Val Cys Gly Asp Arg Ala Ser Gly Tyr His Tyr Asn Ala Leu
 1 5 10 15

Thr Cys Glu Gly Cys Lys Gly Phe Phe Arg Arg Ser Val Thr Lys Asn
 20 25 30

Ala Val Tyr Ile Cys Lys Phe Gly His Ala Cys Glu Met Asp Met Tyr
 35 40 45

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Met Arg Arg Lys Cys Gln Glu Cys Arg Leu Lys Lys Cys Leu Ala Val
 50 55 60

Gly Met
 65

<210> 43
 <211> 441
 <212> DNA
 <213> Saccharomyces cerevisiae

<220>
 <221> misc_feature
 <223> Novel Sequence

<400> 43
 atgaagctac tgtcttctat cgaacaagca tgcgatattt gccgacttaa aaagctcaag 60
 tgctccaaag aaaaaccgaa gtgcgccaaag tgtctgaaga acaactggga gtgtcgctac 120
 tctcccaaaa ccaaaggtc tccgctgact agggcacatc tgacagaagt ggaatcaagg 180
 ctagaaagac tggaacagct atttctactg atttttcctc gagaagacct tgacatgatt 240
 ttgaaaatgg attctttaca ggatataaaa gcattgttaa caggattatt tgtacaagat 300
 aatgtgaata aagatgccgt cacagataga ttggcttcag tggagactga tatgcctcta 360
 acattgagac agcatagaat aagtgcgaca tcatcatcgg aagagagtag taacaaaggt 420
 caaagacagt tgactgtatc g 441

<210> 44
 <211> 147
 <212> PRT
 <213> Saccharomyces cerevisiae

<220>
 <221> misc_feature
 <223> Novel Sequence

<400> 44

Met Lys Leu Leu Ser Ser Ile Glu Gln Ala Cys Asp Ile Cys Arg Leu
 1 5 10 15

Lys Lys Leu Lys Cys Ser Lys Glu Lys Pro Lys Cys Ala Lys Cys Leu
 20 25 30

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Lys Asn Asn Trp Glu Cys Arg Tyr Ser Pro Lys Thr Lys Arg Ser Pro
35 40 45

Leu Thr Arg Ala His Leu Thr Glu Val Glu Ser Arg Leu Glu Arg Leu
50 55 60

Glu Gln Leu Phe Leu Leu Ile Phe Pro Arg Glu Asp Leu Asp Met Ile
65 70 75 80

Leu Lys Met Asp Ser Leu Gln Asp Ile Lys Ala Leu Leu Thr Gly Leu
85 90 95

Phe Val Gln Asp Asn Val Asn Lys Asp Ala Val Thr Asp Arg Leu Ala
100 105 110

Ser Val Glu Thr Asp Met Pro Leu Thr Leu Arg Gln His Arg Ile Ser
115 120 125

Ala Thr Ser Ser Ser Glu Glu Ser Ser Asn Lys Gly Gln Arg Gln Leu
130 135 140

Thr Val Ser
145

<210> 45
<211> 606
<212> DNA
<213> Escherichia coli

<220>
<221> misc_feature
<223> Novel Sequence

<400> 45
atgaaagcgt taacggccag gcaacaagag gtgtttgatc tcatccgtga tcacatcagc 60
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aacgcggctg aagaacatct gaaggcgctg gcacgcaaag gcgttattga aattgtttcc 180
ggcgcatcac gcgggattcg tctgttgacg gaagaggaag aagggttgcc gctggtaggt 240
cgtgtggctg ccggtgaacc acttctggcg caacagcata ttgaaggtca ttatcaggtc 300
gaccccttct tattcaagcc gaatgctgat ttctgctgc gcgtcagcgg gatgtcgatg 360
aaagatatcg gcattatgga tggtagcttg ctggcagtcg ataaaactca ggatgtacgt 420

aacggtcagg tcgttgctgc acgtattgat gacgaagtta ccgttaagcg cctgaaaaaa 480
cagggcaata aagtcgaact gttgccagaa aatagcgagt ttaaaccaat tgtcgtagat 540
cttcgtcagc agagcttcac cattgaaggg ctggcggttg gggttattcg caacggcgac 600
tggctg 606

<210> 46
<211> 202
<212> PRT
<213> Escherichia coli

<220>
<221> misc_feature
<223> Novel Sequence

<400> 46

Met Lys Ala Leu Thr Ala Arg Gln Gln Glu Val Phe Asp Leu Ile Arg
1 5 10 15

Asp His Ile Ser Gln Thr Gly Met Pro Pro Thr Arg Ala Glu Ile Ala
20 25 30

Gln Arg Leu Gly Phe Arg Ser Pro Asn Ala Ala Glu Glu His Leu Lys
35 40 45

Ala Leu Ala Arg Lys Gly Val Ile Glu Ile Val Ser Gly Ala Ser Arg
50 55 60

Gly Ile Arg Leu Leu Gln Glu Glu Glu Glu Gly Leu Pro Leu Val Gly
65 70 75 80

Arg Val Ala Ala Gly Glu Pro Leu Leu Ala Gln Gln His Ile Glu Gly
85 90 95

His Tyr Gln Val Asp Pro Ser Leu Phe Lys Pro Asn Ala Asp Phe Leu
100 105 110

Leu Arg Val Ser Gly Met Ser Met Lys Asp Ile Gly Ile Met Asp Gly
115 120 125

Asp Leu Leu Ala Val His Lys Thr Gln Asp Val Arg Asn Gly Gln Val
130 135 140

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Val Val Ala Arg Ile Asp Asp Glu Val Thr Val Lys Arg Leu Lys Lys
145 150 155 160

Gln Gly Asn Lys Val Glu Leu Leu Pro Glu Asn Ser Glu Phe Lys Pro
165 170 175

Ile Val Val Asp Leu Arg Gln Gln Ser Phe Thr Ile Glu Gly Leu Ala
180 185 190

Val Gly Val Ile Arg Asn Gly Asp Trp Leu
195 200

<210> 47

<211> 420

<212> DNA

<213> Choristoneura fumiferana

<400> 47

atgagacgcc gctggtccaa caacgggggc ttccagacgc tgcgaatgct cgaggagagc 60

tcgtccgaag tgacgtcgtc ctcagctctg ggtctgccgg ccgcgatggt tatgtctccg 120

gagtcgctcg cctcgccaga gtacggcggg ctcgagctct ggggatacga cgatggggtg 180

tcatacaaca cggcgcagtc cttgctgggc aatacttgca cgatgcagca gcagcaacag 240

acgcagccgc tgccgtcgat gccgttgctt atgccgccga ccacgccgaa gtctgaaaac 300

gagtctatatt cctcaggccg tgaggaactg tcgccagctt caagtataaa tgggtgcagt 360

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<210> 48

<211> 140

<212> PRT

<213> Choristoneura fumiferana

<400> 48

Met Arg Arg Arg Trp Ser Asn Asn Gly Gly Phe Gln Thr Leu Arg Met
1 5 10 15

Leu Glu Glu Ser Ser Ser Glu Val Thr Ser Ser Ser Ala Leu Gly Leu
20 25 30

Pro Ala Ala Met Val Met Ser Pro Glu Ser Leu Ala Ser Pro Glu Tyr
35 40 45

Gly Gly Leu Glu Leu Trp Gly Tyr Asp Asp Gly Leu Ser Tyr Asn Thr

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50

55

60

Ala Gln Ser Leu Leu Gly Asn Thr Cys Thr Met Gln Gln Gln Gln Gln
65 70 75 80

Thr Gln Pro Leu Pro Ser Met Pro Leu Pro Met Pro Pro Thr Thr Pro
85 90 95

Lys Ser Glu Asn Glu Ser Ile Ser Ser Gly Arg Glu Glu Leu Ser Pro
100 105 110

Ala Ser Ser Ile Asn Gly Cys Ser Thr Asp Gly Glu Ala Arg Arg Gln
115 120 125

Lys Lys Gly Pro Ala Pro Arg Gln Gln Glu Glu Leu
130 135 140

<210> 49
<211> 271
<212> DNA
<213> herpes simplex virus 7

<220>
<221> misc_feature
<223> Novel Sequence

<400> 49
atgggcccta aaaagaagcg taaagtcgcc ccccgaccg atgtcagcct gggggacgag 60
ctccacttag acggcgagga cgtggcgatg gcgcagcgcg acgcgctaga cgatttcgat 120
ctggacatgt tgggggacgg ggattccccg gggccgggat ttacccccca cgactccgcc 180
ccctacggcg ctctggatat ggccgacttc gagtttgagc agatgtttac cgatgccctt 240
ggaattgacg agtacggtgg ggaattcccg g 271

<210> 50
<211> 90
<212> PRT
<213> herpes simplex virus 7

<220>
<221> misc_feature
<223> Novel Sequence

<400> 50

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Met Gly Pro Lys Lys Lys Arg Lys Val Ala Pro Pro Thr Asp Val Ser
1 5 10 15

Leu Gly Asp Glu Leu His Leu Asp Gly Glu Asp Val Ala Met Ala His
20 25 30

Ala Asp Ala Leu Asp Asp Phe Asp Leu Asp Met Leu Gly Asp Gly Asp
35 40 45

Ser Pro Gly Pro Gly Phe Thr Pro His Asp Ser Ala Pro Tyr Gly Ala
50 55 60

Leu Asp Met Ala Asp Phe Glu Phe Glu Gln Met Phe Thr Asp Ala Leu
65 70 75 80

Gly Ile Asp Glu Tyr Gly Gly Glu Phe Pro
85 90

<210> 51
<211> 307
<212> DNA
<213> Saccharomyces cerevisiae

<400> 51
atgggtgctc ctccaaaaa gaagagaaag gtagctggta tcaataaaga tatcgaggag 60
tgcaatgccca tcattgagca gtttatcgac tacctgcgca ccggacagga gatgccgatg 120
gaaatggcgg atcaggcgat taacgtggtg ccgggcatga cgccgaaaac cattcttcac 180
gccgggcccgc cgatccagcc tgactggctg aaatcgaatg gttttcatga aattgaagcg 240
gatgttaacg ataccagcct cttgctgagt ggagatgcct cctaccctta tgatgtgccca 300
gattatg 307

<210> 52
<211> 102
<212> PRT
<213> Saccharomyces cerevisiae

<400> 52

Met Gly Ala Pro Pro Lys Lys Lys Arg Lys Val Ala Gly Ile Asn Lys
1 5 10 15

Asp Ile Glu Glu Cys Asn Ala Ile Ile Glu Gln Phe Ile Asp Tyr Leu
20 25 30

Arg Thr Gly Gln Glu Met Pro Met Glu Met Ala Asp Gln Ala Ile Asn
35 40 45

Val Val Pro Gly Met Thr Pro Lys Thr Ile Leu His Ala Gly Pro Pro
50 55 60

Ile Gln Pro Asp Trp Leu Lys Ser Asn Gly Phe His Glu Ile Glu Ala
65 70 75 80

Asp Val Asn Asp Thr Ser Leu Leu Leu Ser Gly Asp Ala Ser Tyr Pro
85 90 95

Tyr Asp Val Pro Asp Tyr
100

<210> 53
<211> 807
<212> DNA
<213> Homo sapiens

<400> 53
cccattggaat tccagtacct gccagataca gacgatcgtc accggattga ggagaaacgt 60
aaaaggacat atgagacctt caagagcatc atgaagaaga gtcctttcag cggacccacc 120
gacccccggc ctccacctcg acgcattgct gtgccttccc gcagctcagc ttctgtcccc 180
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cctccccaag tcctgccccca ggctccagcc cctgcccctg ctccagccat ggtatcagct 360
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ccacctgccc ccaagcccac ccaggctggg gaaggaacgc tgtcagaggc cctgctgcag 480
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ttcacagacc tggcatccgt cgacaactcc gagtttcagc agctgctgaa ccagggcata 600
cctgtggccc cccacacaac tgagcccatg ctgatggagt accctgaggc tataactcgc 660
ctagtacag gggcccagag gcccccgac ccagctcctg ctccactggg ggccccgggg 720
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tcagccctgc tgagtcagat cagctcc 807

<210> 54

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<211> 269
<212> PRT
<213> Homo sapiens

<400> 54

Pro Met Glu Phe Gln Tyr Leu Pro Asp Thr Asp Asp Arg His Arg Ile
1 5 10 15

Glu Glu Lys Arg Lys Arg Thr Tyr Glu Thr Phe Lys Ser Ile Met Lys
20 25 30

Lys Ser Pro Phe Ser Gly Pro Thr Asp Pro Arg Pro Pro Pro Arg Arg
35 40 45

Ile Ala Val Pro Ser Arg Ser Ser Ala Ser Val Pro Lys Pro Ala Pro
50 55 60

Gln Pro Tyr Pro Phe Thr Ser Ser Leu Ser Thr Ile Asn Tyr Asp Glu
65 70 75 80

Phe Pro Thr Met Val Phe Pro Ser Gly Gln Ile Ser Gln Ala Ser Ala
85 90 95

Leu Ala Pro Ala Pro Pro Gln Val Leu Pro Gln Ala Pro Ala Pro Ala
100 105 110

Pro Ala Pro Ala Met Val Ser Ala Leu Ala Gln Ala Pro Ala Pro Val
115 120 125

Pro Val Leu Ala Pro Gly Pro Pro Gln Ala Val Ala Pro Pro Ala Pro
130 135 140

Lys Pro Thr Gln Ala Gly Glu Gly Thr Leu Ser Glu Ala Leu Leu Gln
145 150 155 160

Leu Gln Phe Asp Asp Glu Asp Leu Gly Ala Leu Leu Gly Asn Ser Thr
165 170 175

Asp Pro Ala Val Phe Thr Asp Leu Ala Ser Val Asp Asn Ser Glu Phe
180 185 190

Gln Gln Leu Leu Asn Gln Gly Ile Pro Val Ala Pro His Thr Thr Glu
195 200 205

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Pro Met Leu Met Glu Tyr Pro Glu Ala Ile Thr Arg Leu Val Thr Gly
 210 215 220

Ala Gln Arg Pro Pro Asp Pro Ala Pro Ala Pro Leu Gly Ala Pro Gly
 225 230 235 240

Leu Pro Asn Gly Leu Leu Ser Gly Asp Glu Asp Phe Ser Ser Ile Ala
 245 250 255

Asp Met Asp Phe Ser Ala Leu Leu Ser Gln Ile Ser Ser
 260 265

<210> 55
 <211> 225
 <212> DNA
 <213> Drosophila melanogaster

<220>
 <221> misc_feature
 <223> Novel Sequence

<400> 55
 tcgacattgg acaagtgc tgaacccttg tctctcgaga gacaaggggg ttcaatgcac 60
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 ggttcaatgc acttgtccaa tgtcgagaga caaggggggtt caatgcactt gtccaatgtc 180
 gagagacaag ggggttcaat gcacttgtcc aatgtcgact ctaga 225

<210> 56
 <211> 19
 <212> DNA
 <213> Saccharomyces cerevisiae

<220>
 <221> misc_feature
 <223> Novel Sequence

<400> 56
 ggagtactgt cctccgagc 19

<210> 57
 <211> 666
 <212> DNA
 <213> Escherichia coli

<220>

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<221> misc_feature
<223> Novel Sequence

<400> 57
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ttagctctac cacagtgtgt gaaccaatgt atccagcacc acctgtaacc aaaacaattt 120
tagaagtact ttcactttgt aactgagctg tcatttatat tgaattttca aaaattctta 180
cttttttttt ggatggacgc aaagaagttt aataatcata ttacatggca ttaccaccat 240
atacatatcc atatacatat ccataatctaa tcttacctcg actgctgtat ataaaaccag 300
tgggttatatg tacagtactg ctgtatataa aaccagtggg tatatgtaca gtacgtcgac 360
tgctgtatat aaaaccagtg gttatatgta cagtactgct gtatataaaa ccagtgggta 420
tatgtacagt acgtcgaggg atgataatgc gattagtttt ttagccttat ttctggggta 480
attaatcagc gaagcgatga tttttgatct attaacagat atataaatgc aaaaactgca 540
taaccacttt aactaatact ttcaacattt tcggtttgta ttacttctta ttcaaagtga 600
ataaaagtat caacaaaaaa ttgttaatat acctctatac tttaacgtca aggagaaaaa 660
actata 666

<210> 58
<211> 1542
<212> DNA
<213> Choristoneura fumiferana

<220>
<221> misc_feature
<223> Novel Sequence

<400> 58
ctggacctga aacacgaagt ggcttaccga ggggtgctcc caggccaggt gaaggccgaa 60
ccgggggtcc acaacggcca ggtcaacggc cacgtgaggg actggatggc aggcggcgct 120
ggtgccaatt cgccgtctcc gggagcgggtg gctcaacccc agcctaacaa tgggtattcg 180
tcgccactct cctcgggaag ctacgggccc tacagtcaa atgggaaaat aggccgtgag 240
gaactgtcgc cagcttcaag tataaatggg tgcagtacag atggcgaggg acgacgtcag 300
aagaagggcc ctgcgccccg tcagcaagag gaactgtgtc tggatatcgg ggacagagcc 360
tccggatacc actacaatgc gtcacgtgt gaagggtgta aagggttctt cagacggagt 420
gttacaaaa atgcgggtta tatttgtaaa ttcggtcacg cttgcgaaat ggacatgtac 480

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gagtgcgtag tacccgagac tcagtgcgcc atgaagcgga aagagaagaa agcacagaag 600
gagaaggaca aactgcctgt cagcacgacg acggtggacg accacatgcc gccattatg 660
cagtgtgaac ctccacctcc tgaagcagca aggattcacg aagtgggtccc aaggtttctc 720
tccgacaagc tgttgagac aaaccggcag aaaaacatcc cccagttgac agccaaccag 780
cagttcctta tcgccaggct catctggtac caggacgggt acgagcagcc ttctgatgaa 840
gatttgaaga ggattacgca gacgtggcag caagcggacg atgaaaacga agagtctgac 900
actcccttcc gccagatcac agagatgact atcctcacgg tccaacttat cgtggagttc 960
gcgaagggat tgccagggtt cgccaagatc tcgcagcctg atcaaattac gctgcttaag 1020
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<213> Choristoneura fumiferana

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<223> Novel Sequence

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<400> 59

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Lys	Asn	Arg	Lys	Leu	Pro	Pro	Phe	Leu	Glu	Glu	Ile	Trp	Asp	Val	Ala														
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Asp Met Ser His Thr Gln Pro Pro Pro Ile Leu Glu Ser Pro Thr Asn
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Leu

<210> 60
 <211> 4375
 <212> DNA
 <213> Choristoneura fumiferana

<220>
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 <223> Novel Sequence

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 <211> 472
 <212> PRT

<213> Choristoneura fumiferana

<220>

<221> misc feature

<223> Novel Sequence

<400> 61

Met Ser Ser Val Ala Lys Lys Asp Lys Pro Thr Met Ser Val Thr Ala
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Leu Ile Asn Trp Ala Arg Pro Ala Pro Pro Gly Pro Pro Gln Pro Gln
20 25 30

Ser Ala Ser Pro Ala Pro Ala Ala Met Leu Gln Gln Leu Pro Thr Gln
35 40 45

Ser Met Gln Ser Leu Asn His Ile Pro Thr Val Asp Cys Ser Leu Asp
50 55 60

Met Gln Trp Leu Asn Leu Glu Pro Gly Phe Met Ser Pro Met Ser Pro
65 70 75 80

Pro Glu Met Lys Pro Asp Thr Ala Met Leu Asp Gly Leu Arg Asp Asp
85 90 95

Ala Thr Ser Pro Pro Asn Phe Lys Asn Tyr Pro Pro Asn His Pro Leu
100 105 110

Ser Gly Ser Lys His Leu Cys Ser Ile Cys Gly Asp Arg Ala Ser Gly
115 120 125

Lys His Tyr Gly Val Tyr Ser Cys Glu Gly Cys Lys Gly Phe Phe Lys
130 135 140

Arg Thr Val Arg Lys Asp Leu Ser Tyr Ala Cys Arg Glu Glu Arg Asn
145 150 155 160

Cys Ile Ile Asp Lys Arg Gln Arg Asn Arg Cys Gln Tyr Cys Arg Tyr
165 170 175

Gln Lys Cys Leu Ala Cys Gly Met Lys Arg Glu Ala Val Gln Glu Glu
180 185 190

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Arg Gln Arg Asn Ala Arg Gly Ala Glu Asp Ala His Pro Ser Ser Ser
195 200 205

Val Gln Val Ser Asp Glu Leu Ser Ile Glu Arg Leu Thr Glu Met Glu
210 215 220

Ser Leu Val Ala Asp Pro Ser Glu Glu Phe Gln Phe Leu Arg Val Gly
225 230 235 240

Pro Asp Ser Asn Val Pro Pro Arg Tyr Arg Ala Pro Val Ser Ser Leu
245 250 255

Cys Gln Ile Gly Asn Lys Gln Ile Ala Ala Leu Val Val Trp Ala Arg
260 265 270

Asp Ile Pro His Phe Gly Gln Leu Glu Leu Asp Asp Gln Val Val Leu
275 280 285

Ile Lys Ala Ser Trp Asn Glu Leu Leu Leu Phe Ala Ile Ala Trp Arg
290 295 300

Ser Met Glu Tyr Leu Glu Asp Glu Arg Glu Asn Gly Asp Gly Thr Arg
305 310 315 320

Ser Thr Thr Gln Pro Gln Leu Met Cys Leu Met Pro Gly Met Thr Leu
325 330 335

His Arg Asn Ser Ala Gln Gln Ala Gly Val Gly Ala Ile Phe Asp Arg
340 345 350

Val Leu Ser Glu Leu Ser Leu Lys Met Arg Thr Leu Arg Met Asp Gln
355 360 365

Ala Glu Tyr Val Ala Leu Lys Ala Ile Val Leu Leu Asn Pro Asp Val
370 375 380

Lys Gly Leu Lys Asn Arg Gln Glu Val Asp Val Leu Arg Glu Lys Met
385 390 395 400

Phe Ser Cys Leu Asp Asp Tyr Cys Arg Arg Ser Arg Ser Asn Glu Glu
405 410 415

Gly Arg Phe Ala Ser Leu Leu Leu Arg Leu Pro Ala Leu Arg Ser Ile

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420

425

430

Ser Leu Lys Ser Phe Glu His Leu Tyr Phe Phe His Leu Val Ala Glu
 435 440 445

Gly Ser Ile Ser Gly Tyr Ile Arg Glu Ala Leu Arg Asn His Ala Pro
 450 455 460

Pro Ile Asp Val Asn Ala Met Met
 465 470

<210> 62
 <211> 1404
 <212> DNA
 <213> Mus musculus
 <220>
 <221> misc_feature
 <223> Novel Sequence

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 aatgagaacg aggtggagtc caccagcagt gccaacgagg acatgcctgt agagaagatt 720
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 ctgaaccca gctcaccaa tgacctgtt accaactct gtcaagcagc agacaagcag 840
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<210> 63
 <211> 467
 <212> PRT
 <213> Mus musculus
 <220>
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 <223> Novel Sequence

<400> 63

Met Asp Thr Lys His Phe Leu Pro Leu Asp Phe Ser Thr Gln Val Asn
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Ser Ser Ser Leu Asn Ser Pro Thr Gly Arg Gly Ser Met Ala Val Pro
 20 25 30

Ser Leu His Pro Ser Leu Gly Pro Gly Ile Gly Ser Pro Leu Gly Ser
 35 40 45

Pro Gly Gln Leu His Ser Pro Ile Ser Thr Leu Ser Ser Pro Ile Asn
 50 55 60

Gly Met Gly Pro Pro Phe Ser Val Ile Ser Ser Pro Met Gly Pro His
 65 70 75 80

Ser Met Ser Val Pro Thr Thr Pro Thr Leu Gly Phe Gly Thr Gly Ser
 85 90 95

Pro Gln Leu Asn Ser Pro Met Asn Pro Val Ser Ser Thr Glu Asp Ile
 100 105 110

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Lys Pro Pro Leu Gly Leu Asn Gly Val Leu Lys Val Pro Ala His Pro
115 120 125

Ser Gly Asn Met Ala Ser Phe Thr Lys His Ile Cys Ala Ile Cys Gly
130 135 140

Asp Arg Ser Ser Gly Lys His Tyr Gly Val Tyr Ser Cys Glu Gly Cys
145 150 155 160

Lys Gly Phe Phe Lys Arg Thr Val Arg Lys Asp Leu Thr Tyr Thr Cys
165 170 175

Arg Asp Asn Lys Asp Cys Leu Ile Asp Lys Arg Gln Arg Asn Arg Cys
180 185 190

Gln Tyr Cys Arg Tyr Gln Lys Cys Leu Ala Met Gly Met Lys Arg Glu
195 200 205

Ala Val Gln Glu Glu Arg Gln Arg Gly Lys Asp Arg Asn Glu Asn Glu
210 215 220

Val Glu Ser Thr Ser Ser Ala Asn Glu Asp Met Pro Val Glu Lys Ile
225 230 235 240

Leu Glu Ala Glu Leu Ala Val Glu Pro Lys Thr Glu Thr Tyr Val Glu
245 250 255

Ala Asn Met Gly Leu Asn Pro Ser Ser Pro Asn Asp Pro Val Thr Asn
260 265 270

Ile Cys Gln Ala Ala Asp Lys Gln Leu Phe Thr Leu Val Glu Trp Ala
275 280 285

Lys Arg Ile Pro His Phe Ser Glu Leu Pro Leu Asp Asp Gln Val Ile
290 295 300

Leu Leu Arg Ala Gly Trp Asn Glu Leu Leu Ile Ala Ser Phe Ser His
305 310 315 320

Arg Ser Ile Ala Val Lys Asp Gly Ile Leu Leu Ala Thr Gly Leu His
325 330 335

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Val His Arg Asn Ser Ala His Ser Ala Gly Val Gly Ala Ile Phe Asp
 340 345 350

Arg Val Leu Thr Glu Leu Val Ser Lys Met Arg Asp Met Gln Met Asp
 355 360 365

Lys Thr Glu Leu Gly Cys Leu Arg Ala Ile Val Leu Phe Asn Pro Asp
 370 375 380

Ser Lys Gly Leu Ser Asn Pro Ala Glu Val Glu Ala Leu Arg Glu Lys
 385 390 395 400

Val Tyr Ala Ser Leu Glu Ala Tyr Cys Lys His Lys Tyr Pro Glu Gln
 405 410 415

Pro Gly Arg Phe Ala Lys Leu Leu Leu Arg Leu Pro Ala Leu Arg Ser
 420 425 430

Ile Gly Leu Lys Cys Leu Glu His Leu Phe Phe Phe Lys Leu Ile Gly
 435 440 445

Asp Thr Pro Ile Asp Thr Phe Leu Met Glu Met Leu Glu Ala Pro His
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Gln Ala Thr
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<210> 64
 <211> 309
 <212> DNA
 <213> Simian virus 40

<220>
 <221> misc_feature
 <223> Novel Sequence

<400> 64
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gcctaggct

309

<210> 65
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> synthetic Elb minimal promoter

<220>
<221> misc_feature
<223> Novel Sequence

<400> 65
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24

<210> 66
<211> 1653
<212> DNA
<213> Photinus pyralis

<220>
<221> misc_feature
<223> Novel Sequence

<400> 66
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gcagttgcgc ccgcgaacga catttataat gaacgtgaat tgctcaacag tatgaacatt 360
tcgcagccta ccgtagtggt tgttttccaa aaggggttgc aaaaaatttt gaacgtgcaa 420
aaaaaattac caataatcca gaaaattatt atcatggatt ctaaaacgga ttaccaggga 480
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gttccattcc atcacggttt tggaatgttt actacactcg gatatttgat atgtggattt 780

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 ggagacatag cttactggga cgaagacgaa cacttcttca tagttgaccg cttgaagtct 1320
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 caccacaaca tcttcgacgc gggcgtggca ggtcttcccg acgatgacgc cgggtgaactt 1440
 cccgccgccg ttgttgtttt ggagcacgga aagacgatga cggaaaaaga gatcgtggat 1500
 tacgtcgcca gtcaagtaac aaccgcgaaa aagttgcgcg gaggagtgtg gtttgtggac 1560
 gaagtaccga aaggtcttac cggaaaactc gacgcaagaa aaatcagaga gatcctcata 1620
 aaggccaaga agggcggaag gtccaaattg taa 1653

<210> 67
 <211> 867
 <212> DNA
 <213> Choristoneura fumiferana

<220>
 <221> misc_feature
 <223> Novel Sequence

<400> 67
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 ccgagtagct cgggtgcaggt aagcgatgag ctgtcaatcg agcgcctaac ggagatggag 120
 tctttggtgg cagatcccag cgaggagttc cagttcctcc gcgtggggcc tgacagcaac 180
 gtgcctccac gttaccgcgc gcccgctctc tccctctgcc aaataggcaa caagcaaata 240
 gcggcggttg tggtatgggc gcgcgacatc cctcatttcg ggcagctgga gctggacgat 300
 caagtgttac tcatcaaggc ctctggaat gagctgctac tcttcgcat cgctggcgc 360
 tctatggagt atttgaaga tgagaggag aacggggacg gaacgcggag caccactcag 420
 ccacaactga tgtgtctcat gcctggcatg acgttgacc gcaactcggc gcagcaggcg 480

ggcgtgggcg ccatcttcga ccgctgctg tccgagctca gtctgaagat gcgcaccttg 540
 cgcatggacc aggccgagta cgtcgcgctc aaagccatcg tgctgctcaa ccctgatgtg 600
 aaaggactga agaatcggca agaagttgac gttttgagag aaaaaatgtt ctcttgcttg 660
 gacgactact gccggcggtc gcgaagcaac gaggaaggcc ggtttgctc cttgctgctg 720
 cggctgccag ctctccgctc catctcgtc aagagcttcg aacacctcta cttcttcac 780
 ctctggccg aaggctccat cagcggatac atacgagagg cgctccgaaa ccacgcgcct 840
 ccgatcgacg tcaatgccat gatgtaa 867

<210> 68
 <211> 619
 <212> DNA
 <213> Cytomegalovirus

<220>
 <221> misc_feature
 <223> Novel Sequence

<400> 68
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 gacgtcaata atgacgtatg ttcccatagt aacgccataa gggactttcc attgacgtca 120
 atgggtggag tatttacggt aaactgccc cttggcagta catcaagtgt atcatatgcc 180
 aagtacgccc cctattgacg tcaatgacgg taaatggccc gcctggcatt atgccagta 240
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 catggtgatg cggttttggc agtacatcaa tgggcgtgga tagcggtttg actcacgggg 360
 atttccaagt ctccaccca ttgacgtcaa tgggagtttg ttttggcacc aaaatcaacg 420
 ggactttcca aaatgtcgta acaactccgc ccattgacg caaatgggag gtaggcgtgt 480
 acggtgggag gtctatataa gcagagctcg tttagtgaac cgtcagatcg cctggagacg 540
 ccatccacgc tgttttgacc tccatagaag acaccgggac cgatccagcc tccgcggccg 600
 ggaacggtgc attggaacg 619

<210> 69
 <211> 262
 <212> DNA
 <213> Rous sarcoma virus

<220>
 <221> misc_feature

<223> Novel Sequence

<400> 69

atgtagtctt atgcaatact cttgtagtct tgcaacatgg taacgatgag ttagcaacat	60
gccttacaag gagagaaaaa gcaccgtgca tgccgatagg tggaagtaag gtggtacgat	120
cgtgccttat taggaaggca acagacgggt ctgacatgga ttggacgaac cactgaattc	180
cgcattgcag agatattgta tttaagtgcc tagctcgata caataaacgc catttgacca	240
ttcaccacat tggagtgcac ct	262

<210> 70

<211> 1247

<212> DNA

<213> Choristoneura fumiferana

<220>

<221> misc_feature

<223> Novel Sequence

<400> 70

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gatggcgagg cacgacgtca gaagaagggc cctgcgcccc gtcagcaaga ggaactgtgt	120
ctggtatgcy gggacagagc ctccggatac cactacaatg cgctcacgtg tgaaggggtgt	180
aaagggttct tcagacggag tgttaccaa aatgcggttt atatttgtaa attcggtcac	240
gcttgcgaaa tggacatgta catgcyacgg aaatgccagg agtgccgcct gaagaagtgc	300
ttagctgtag gcatgaggcc tgagtgcgta gtacccgaga ctcagtgcgc catgaagcgg	360
aaagagaaga aagcacagaa ggagaaggac aaactgcctg tcagcacgac gacggtggac	420
gaccacatgc cgccattat gcagtgtgaa cctccacctc ctgaagcagc aaggattcac	480
gaagtgggtc caaggtttct ctccgacaag ctggtggaga caaacggca gaaaaacatc	540
ccccagttga cagccaacca gcagttcctt atcgccaggc tcatctggta ccaggacggg	600
tacgagcagc cttctgatga agatttgaag aggattacgc agacgtggca gcaagcggac	660
gatgaaaacg aagagtctga cactcccttc cgccagatca cagagatgac taccctcacg	720
gtccaactta tcgtggagtt cgcgaaggga ttgccagggt tcgccaagat ctgcgcgcct	780
gatcaaatta cgctgcttaa ggcttgctca agtgaggtaa tgatgctccg agtcgcgcga	840
cgatacgatg cggcctcaga cagtgttctg ttcgcgaaca accaagcgta cactcgcgac	900
aactaccgca aggctggcat ggctacgctc atcgaggatc tactgcactt ctgccgggtgc	960

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atgtactcta tggcggttga caacatccat tacgcgctgc tcacggctgt cgtcatcttt 1020
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aatacgctcc gcatctatat cctgaaccag ctgagcgggt cggcgcgttc gtccgtcata 1140
tacggcaaga tcctctcaat cctctctgag ctacgcacgc tcggcatgca aaactccaac 1200
atgtgcatct ccctcaagct caagaacaga aagctgccgc ctttcct 1247

<210> 71
<211> 440
<212> PRT
<213> Choristoneura fumiferana

<220>
<221> misc_feature
<223> Novel Sequence

<400> 71

Ser Ile Ser Ser Gly Arg Glu Glu Leu Ser Pro Ala Ser Ser Ile Asn
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Gly Cys Ser Thr Asp Gly Glu Ala Arg Arg Gln Lys Lys Gly Pro Ala
20 25 30

Pro Arg Gln Gln Glu Glu Leu Cys Leu Val Cys Gly Asp Arg Ala Ser
35 40 45

Gly Tyr His Tyr Asn Ala Leu Thr Cys Glu Gly Cys Lys Gly Phe Phe
50 55 60

Arg Arg Ser Val Thr Lys Asn Ala Val Tyr Ile Cys Lys Phe Gly His
65 70 75 80

Ala Cys Glu Met Asp Met Tyr Met Arg Arg Lys Cys Gln Glu Cys Arg
85 90 95

Leu Lys Lys Cys Leu Ala Val Gly Met Arg Pro Glu Cys Val Val Pro
100 105 110

Glu Thr Gln Cys Ala Met Lys Arg Lys Glu Lys Lys Ala Gln Lys Glu
115 120 125

Lys Asp Lys Leu Pro Val Ser Thr Thr Thr Val Asp Asp His Met Pro

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130

135

140

Pro Ile Met Gln Cys Glu Pro Pro Pro Pro Glu Ala Ala Arg Ile His
145 150 155 160

Glu Val Val Pro Arg Phe Leu Ser Asp Lys Leu Leu Glu Thr Asn Arg
165 170 175

Gln Lys Asn Ile Pro Gln Leu Thr Ala Asn Gln Gln Phe Leu Ile Ala
180 185 190

Arg Leu Ile Trp Tyr Gln Asp Gly Tyr Glu Gln Pro Ser Asp Glu Asp
195 200 205

Leu Lys Arg Ile Thr Gln Thr Trp Gln Gln Ala Asp Asp Glu Asn Glu
210 215 220

Glu Ser Asp Thr Pro Phe Arg Gln Ile Thr Glu Met Thr Ile Leu Thr
225 230 235 240

Val Gln Leu Ile Val Glu Phe Ala Lys Gly Leu Pro Gly Phe Ala Lys
245 250 255

Ile Ser Gln Pro Asp Gln Ile Thr Leu Leu Lys Ala Cys Ser Ser Glu
260 265 270

Val Met Met Leu Arg Val Ala Arg Arg Tyr Asp Ala Ala Ser Asp Ser
275 280 285

Val Leu Phe Ala Asn Asn Gln Ala Tyr Thr Arg Asp Asn Tyr Arg Lys
290 295 300

Ala Gly Met Ala Tyr Val Ile Glu Asp Leu Leu His Phe Cys Arg Cys
305 310 315 320

Met Tyr Ser Met Ala Leu Asp Asn Ile His Tyr Ala Leu Leu Thr Ala
325 330 335

Val Val Ile Phe Ser Asp Arg Pro Gly Leu Glu Gln Pro Gln Leu Val
340 345 350

Glu Glu Ile Gln Arg Tyr Tyr Leu Asn Thr Leu Arg Ile Tyr Ile Leu
355 360 365

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Asn Gln Leu Ser Gly Ser Ala Arg Ser Ser Val Ile Tyr Gly Lys Ile
 370 375 380

Leu Ser Ile Leu Ser Glu Leu Arg Thr Leu Gly Met Gln Asn Ser Asn
 385 390 395 400

Met Cys Ile Ser Leu Lys Leu Lys Asn Arg Lys Leu Pro Pro Phe Leu
 405 410 415

Glu Glu Ile Trp Asp Val Ala Asp Met Ser His Thr Gln Pro Pro Pro
 420 425 430

Ile Leu Glu Ser Pro Thr Asn Leu
 435 440

<210> 72
 <211> 943
 <212> DNA
 <213> Renilla

<220>
 <221> misc_feature
 <223> Novel Sequence

<400> 72
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 aaacatgcag aaaatgctgt tattttttta catggtaacg cggcctcttc ttatttatgg 180
 cgacatgttg tgccacatat tgagccagta ggcggtgta ttataccaga ccttattggg 240
 atggggcaaat caggcaaatac tggtaatggg tcttataggg tacttgatca ttacaaatat 300
 cttactgcat gggttgaact tcttaattta ccaaagaaga tcatttttgg cggccatgat 360
 tgggggtgctt gtttggcatt tcattatagc tatgagcatc aagataagat caaagcaata 420
 gttcacgctg aaagtgtagt agatgtgatt gaatcatggg atgaatggcc tgatattgaa 480
 gaagatattg cgttgatcaa atctgaagaa ggagaaaaaa tggttttgga gaataacttc 540
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 gcatatcttg aaccattcaa agagaaaggg gaagtctgct gtccaacatt atcatggcct 660
 cgtgaaatcc cgtagtaaaa aggtggtaaa cctgacgttg taaaaattgt taggaattat 720

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 gtaaaagggtc ttcattttttc gcaagaagat gcacctgatg aaatgggaaa atatatcaaa 900
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<210> 73
 <211> 530
 <212> DNA
 <213> *Saccharomyces cerevisiae*

<400> 73
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 aagactctcc tccgtgcgtc ctcgctttca ccggtcgcgt tctgaaacg cagatgtgcc 180
 tcgcgccgca ctgctccgaa caataaagat tctacaatac tagcttttat gggtatgaag 240
 aggaaaaatt ggcagtaacc tggccccaca aaccttcaaa tgaacgaatc aaattaacaa 300
 ccataggatg ataatgcgat tagtttttta gccttatttc tggggtaatt aatcagcgaa 360
 gcgatgattt ttgatctatt aacagatata taaatgcaaa aactgcataa ccactttaac 420
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 caaaaaattg ttaatatacc tctatacttt aacgtcaagg aggaattaag 530

<210> 74
 <211> 3157
 <212> DNA
 <213> *Escherichia coli*

<400> 74
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 aatgttgatg aaagctggct acaggaaggc cagacgcgaa ttatttttga tggcggttaac 540

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ccggagagcg cggggcaact ctggctcaca gtacgcgtag tgcaaccgaa cgcgaccgca	2220

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<210> 75
 <211> 185
 <212> DNA
 <213> Escherichia coli

<400> 75	
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aaccagtggg tatatgtaca gtactgctgt atataaaacc agtggttata tgtacagtac	180
gtcga	185